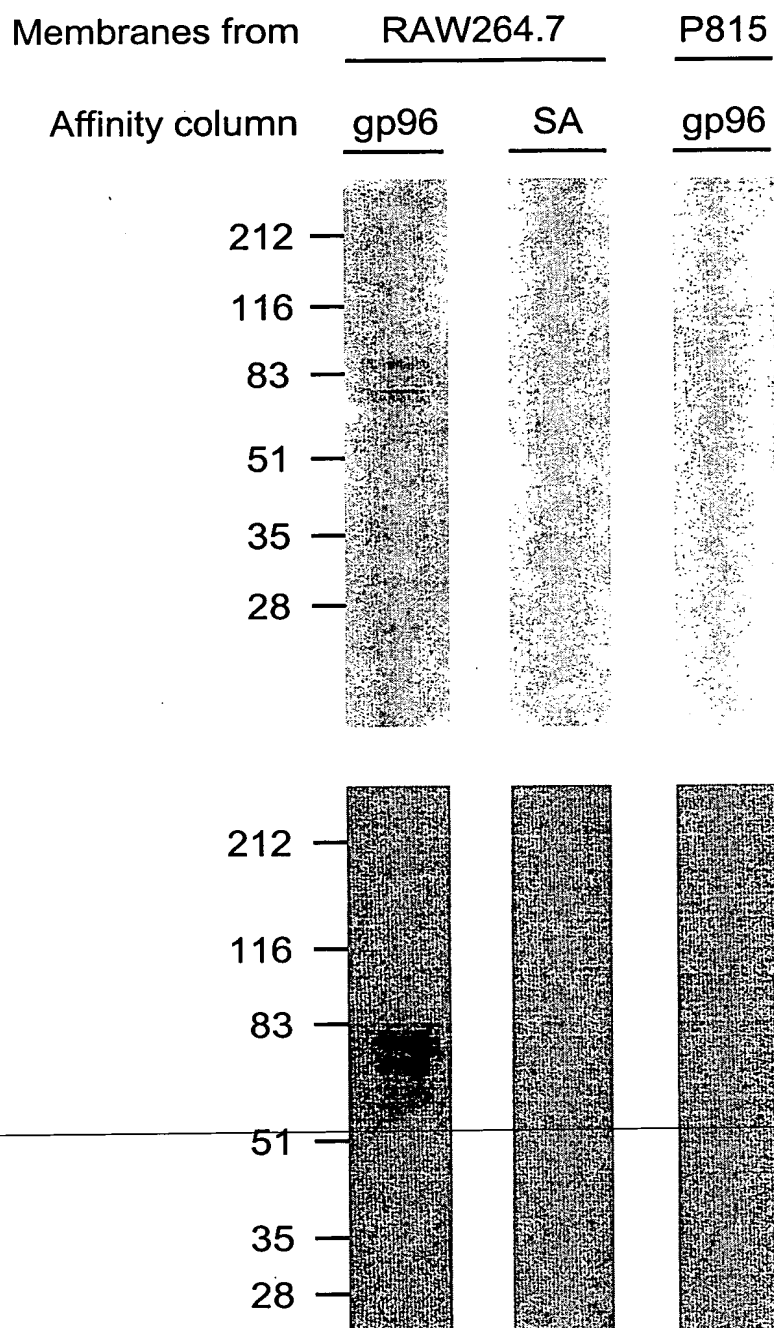


FIG. 1A

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CELL	MO	MO	MO	P815
¹²⁵ I-SASD-gp96	+	+	+	+
UV	+	-	+	+
2-ME	+	+	-	+

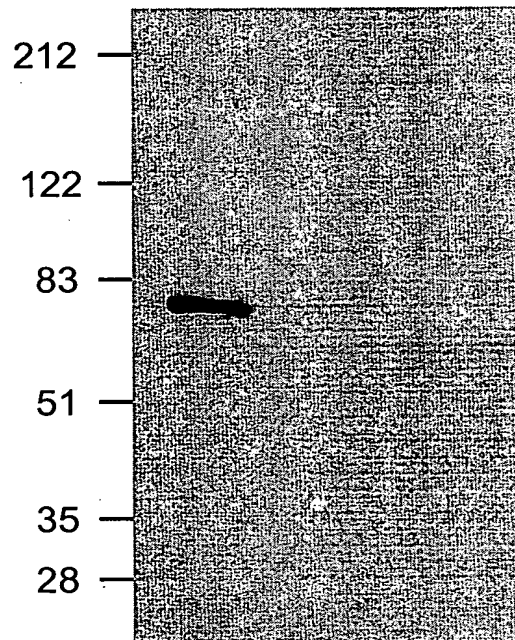


FIG.1 C

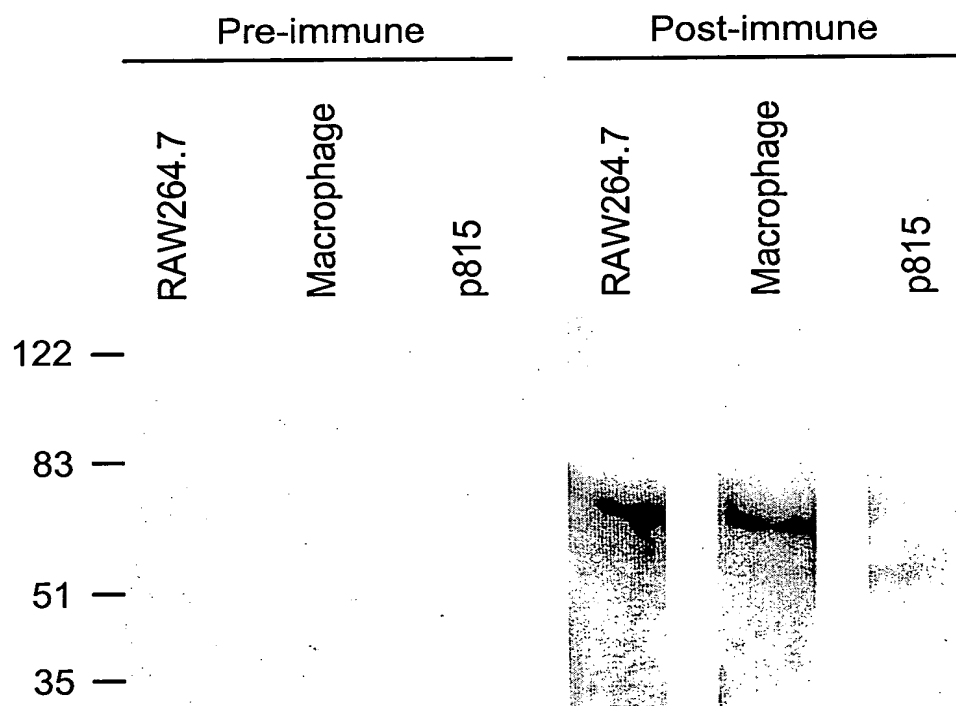


FIG.2A

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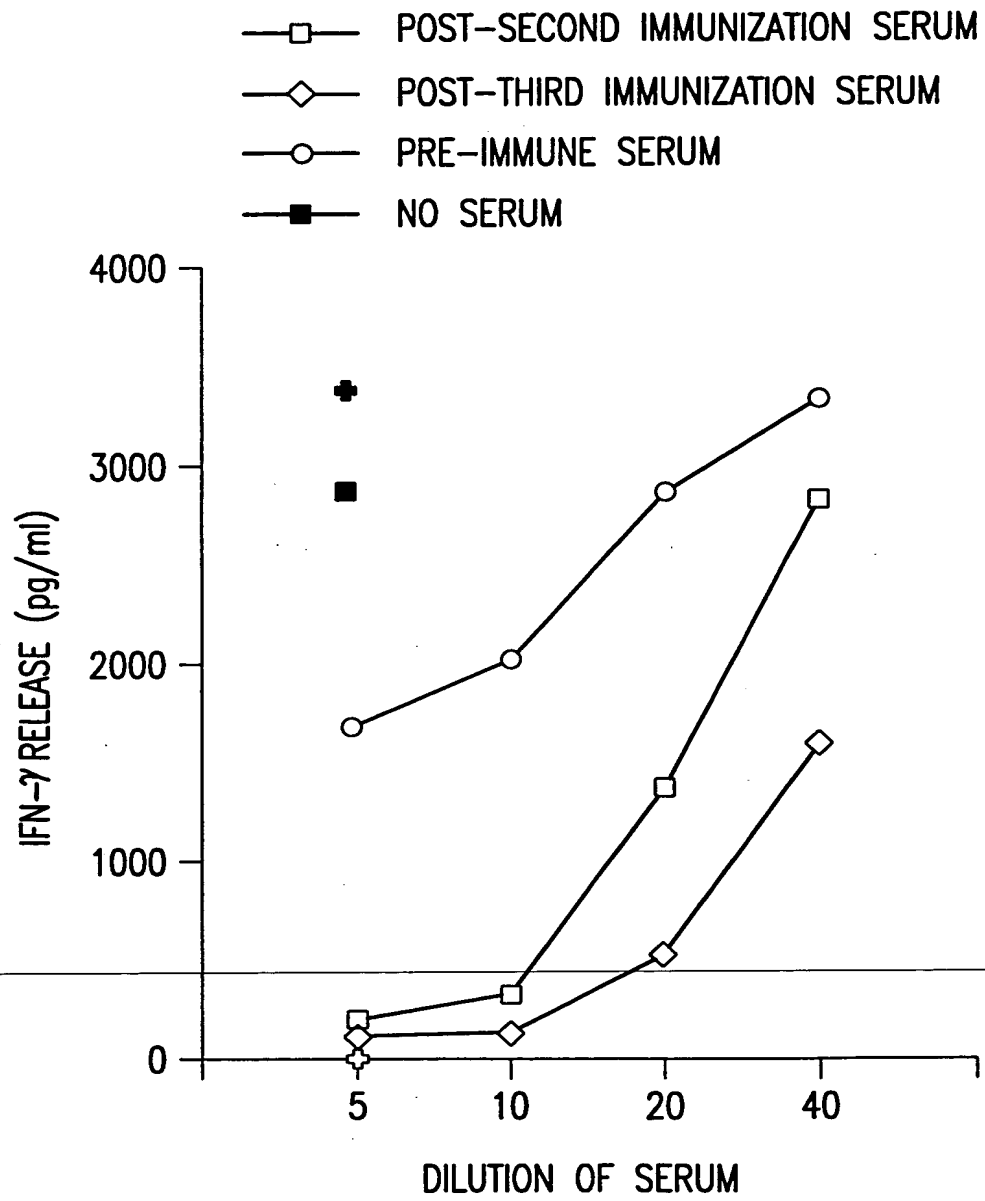


FIG.2B

<u>Seq</u>	<u>#</u>	<u>b</u>	<u>y</u>	<u>+1</u>
G	1	58.1	—	10
G	2	115.1	1095.2	9
A	3	186.2	1038.2	8
L	4	299.3	967.1	7
H	5	436.5	853.9	6
I	6	549.6	716.8	5
Y	7	712.8	603.6	4
H	8	850.0	440.5	3
Q	9	978.1	303.3	2
R	10	—	175.2	1

FIG.3A

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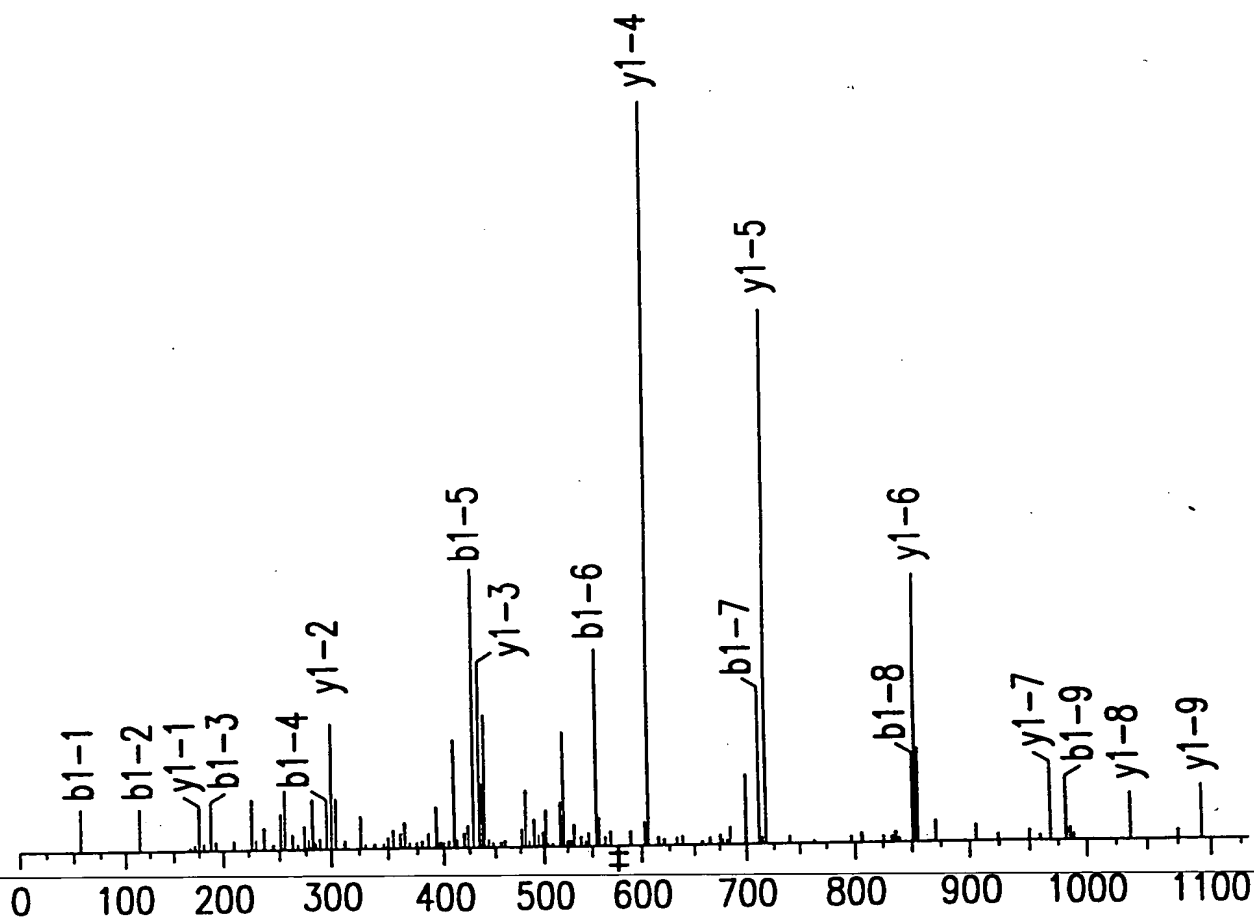


FIG.3B

POSITION	MH+	SEQUENCE	
509-518	955.0122	SGFSLGSDGK	(SEQ ID NO: 54)
328-337	973.1753	GIALDPAMGK	(SEQ ID NO: 55)
460-469	1152.3010	GGALHIYHQR	(SEQ ID NO: 56)
338-348	1315.5116	VFFTDYGQIPK	(SEQ ID NO: 57)

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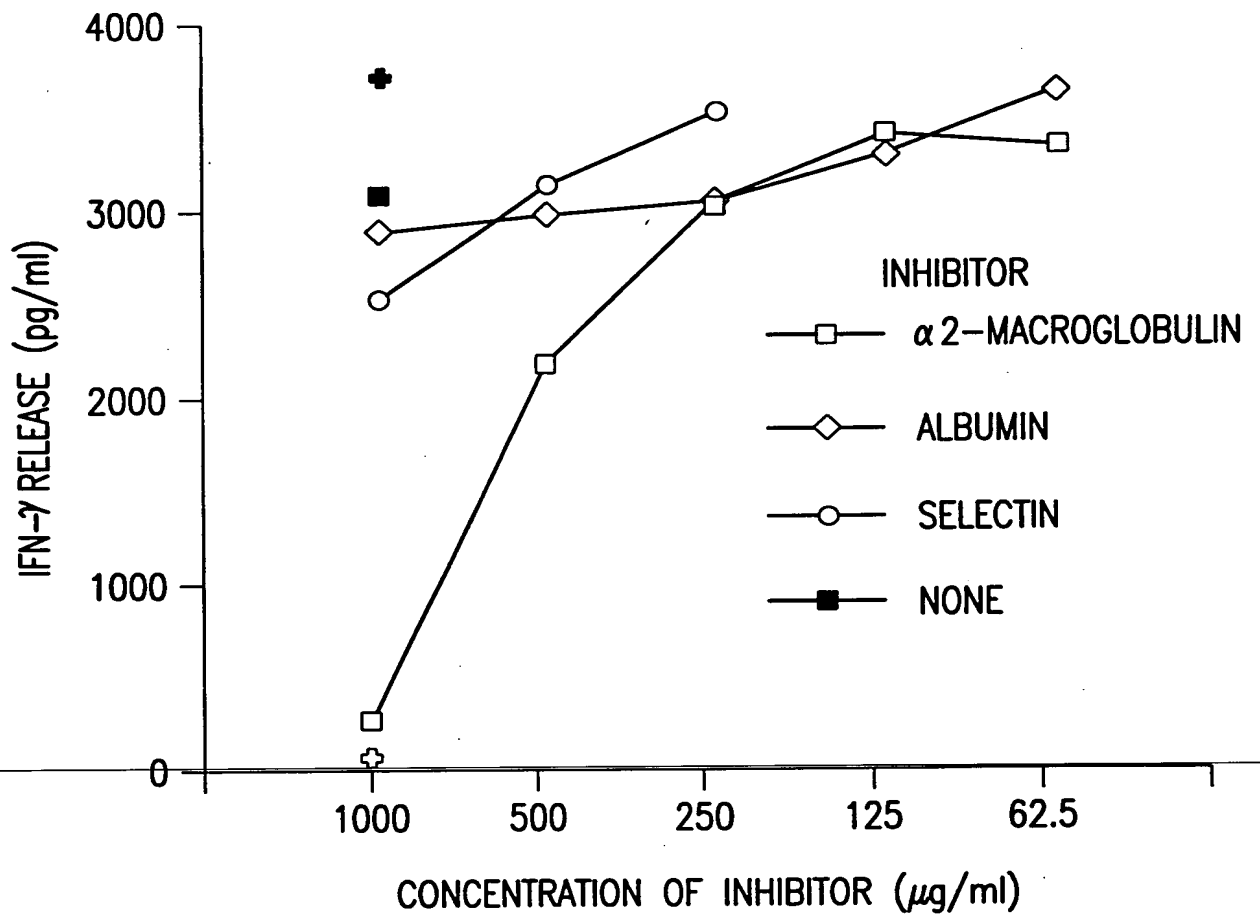


FIG.4

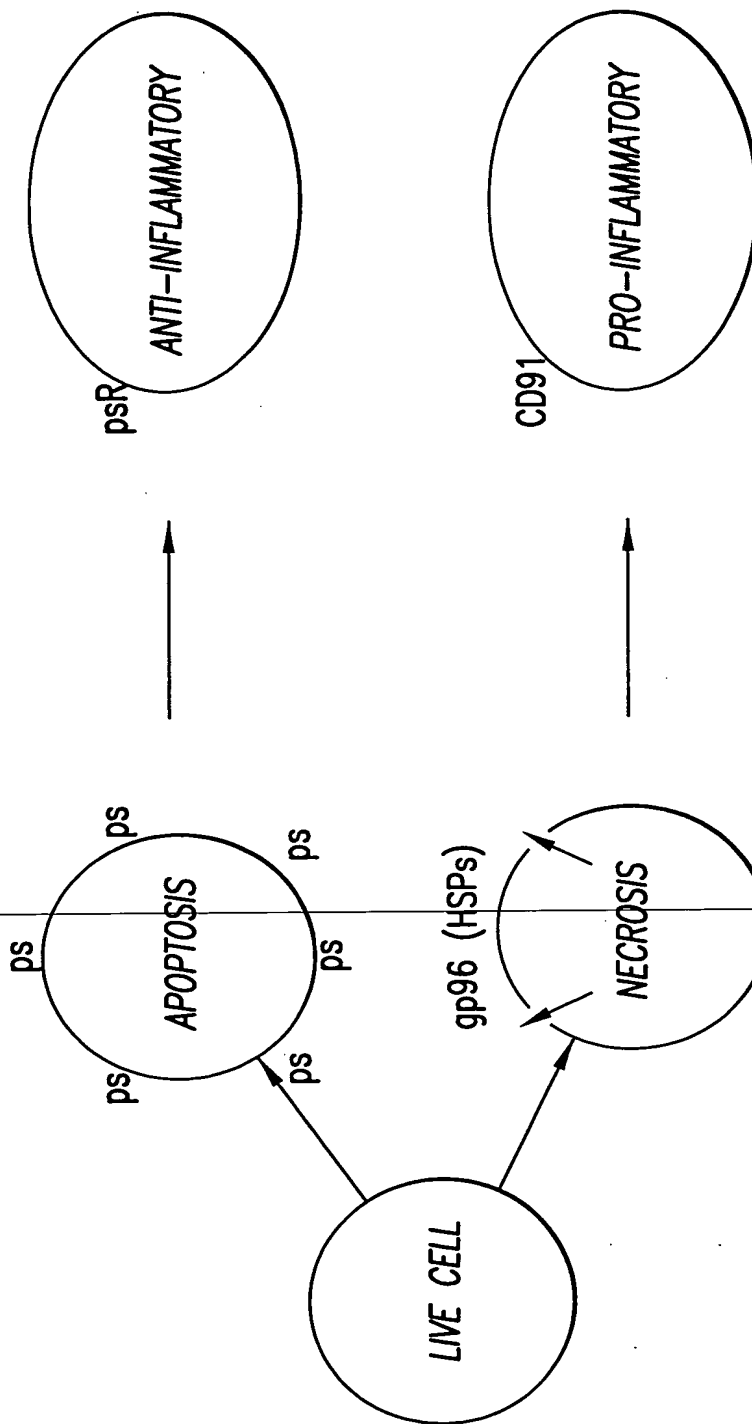


FIG.5

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CGCTGCTCCC	CGCCAGTGCA	CTGAGGAGGC	GGAAACGGGG	GAGCCCCTAG	TGCTCCATCA	60
GGCCCCTACC	AAGGCACCCC	CATCGGGTCC	ACGCCCCCCA	CCCCCACC	CGCCTCCTCC	120
CAATTGTGCA	TTTTTGACG	CGGAGTCGGC	TCCGAGATGG	GGCTGTGAGC	TTCGCCCTGG	180
GAGGGGGAGA	GGAGCGAGGA	GTAAAGCAGG	GGTGAAGGGT	TCGAATTTGG	GGGCAGGGGG	240
CGCACCCGCG	TCAGCAGGCC	CTTCCCAGGG	GGCTCGGAAC	TGTACCATTT	CACCTATGCC	300
CCTGGTTCGC	TTTGCTTAAG	GAAGGATAAG	ATAGAAGAGT	CGGGGAGAGG	AAGATAAAGG	360
GGGACCCCCC	AATTGGGGGG	GGCGAGGACA	AGAAGTAACA	GGACCAGAGG	GTGGGGGCTG	420
CTGTTTGCAT	CGGCCACAC	C	ATG CTG ACC CCG CCG	TTG CTG CTG CTC GTG		471

Met Leu Thr Pro Pro Leu Leu Leu Leu Val
1 5 10

CCG CTG CTT TCA GCT CTG GTC TCC GGG GCC ACT ATG GAT GCC CCT AAA	519
Pro Leu Leu Ser Ala Leu Val Ser Gly Ala Thr Met Asp Ala Pro Lys	
15 20 25	

ACT TGC AGC CCT AAG CAG TTT GCC TGC AGA GAC CAA ATC ACC TGT ATC	567
Thr Cys Ser Pro Lys Gln Phe Ala Cys Arg Asp Gln Ile Thr Cys Ile	
30 35 40	

TCA AAG GGC TGG CGG TGT GAC GGT GAA AGA GAT TGC CCC GAC GGC TCT	615
Ser Lys Gly Trp Arg Cys Asp Gly Glu Arg Asp Cys Pro Asp Gly Ser	
45 50 55	

GAT GAA GCC CCT GAG ATC TGT CCA CAG AGT AAA GCC CAG AGA TGC CCG	663
Asp Glu Ala Pro Glu Ile Cys Pro Gln Ser Lys Ala Gln Arg Cys Pro	
60 65 70	

CCA AAT GAG CAC AGT TGT CTG GGG ACT GAG CTA TGT GTC CCC ATG TCT	711
Pro Asn Glu His Ser Cys Leu Gly Thr Glu Leu Cys Val Pro Met Ser	
75 80 85 90	

CGT CTC TGC AAC GGG ATC CAG GAC TGC ATG GAT GGC TCA GAC GAG GGT	759
Arg Leu Cys Asn Gly Ile Gln Asp Cys Met Asp Gly Ser Asp Glu Gly	
95 100 105	

GCT CAC TGC CGA GAG CTC CGA GCC AAC TGT TCT CGA ATG GGT TGT CAA	807
Ala His Cys Arg Glu Leu Arg Ala Asn Cys Ser Arg Met Gly Cys Gln	
110 115 120	

CAC CAT TGT GTA CCT ACA CCC AGT GGG CCC ACG TGC TAC TGT AAC AGC	855
His His Cys Val Pro Thr Pro Ser Gly Pro Thr Cys Tyr Cys Asn Ser	
125 130 135	

FIG.6A-1

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AGC	TTC	CAG	CTC	GAG	GCA	GAT	GGC	AAG	ACG	TGC	AAA	GAT	TTT	GAC	GAG	903
Ser	Phe	Gln	Leu	Glu	Ala	Asp	Gly	Lys	Thr	Cys	Lys	Asp	Phe	Asp	Glu	
140						145				150						
TGT	TCC	GTG	TAT	GGC	ACC	TGC	AGC	CAG	CTT	TGC	ACC	AAC	ACA	GAT	GGC	951
Cys	Ser	Val	Tyr	Gly	Thr	Cys	Ser	Gln	Leu	Cys	Thr	Asn	Thr	Asp	Gly	
155					160					165					170	
TCC	TTC	ACA	TGT	GGC	TGT	GTT	GAA	GGC	TAC	CTG	CTG	CAA	CCG	GAC	AAC	999
Ser	Phe	Thr	Cys	Gly	Cys	Val	Glu	Gly	Tyr	Leu	Leu	Gln	Pro	Asp	Asn	
				175					180					185		
CGC	TCC	TGC	AAG	GCC	AAG	AAT	GAG	CCA	GTA	GAT	CGG	CCG	CCA	GTG	CTA	1047
Arg	Ser	Cys	Lys	Ala	Lys	Asn	Glu	Pro	Val	Asp	Arg	Pro	Pro	Val	Leu	
			190					195					200			
CTG	ATT	GCC	AAC	TCT	CAG	AAC	ATC	CTA	GCT	ACG	TAC	CTG	AGT	GGG	GCC	1095
Leu	Ile	Ala	Asn	Ser	Gln	Asn	Ile	Leu	Ala	Thr	Tyr	Leu	Ser	Gly	Ala	
		205					210					215				
CAA	GTG	TCT	ACC	ATC	ACA	CCC	ACC	AGC	ACC	CGA	CAA	ACC	ACG	GCC	ATG	1143
Gln	Val	Ser	Thr	Ile	Thr	Pro	Thr	Ser	Thr	Arg	Gln	Thr	Thr	Ala	Met	
	220					225					230					
GAC	TTC	AGT	TAT	GCC	AAT	GAG	ACC	GTA	TGC	TGG	GTG	CAC	GTT	GGG	GAC	1191
Asp	Phe	Ser	Tyr	Ala	Asn	Glu	Thr	Val	Cys	Trp	Val	His	Val	Gly	Asp	
235					240					245				250		
AGT	GCT	GCC	CAG	ACA	CAG	CTC	AAG	TGT	GCC	CGG	ATG	CCT	GGC	CTG	AAG	1239
Ser	Ala	Ala	Gln	Thr	Gln	Leu	Lys	Cys	Ala	Arg	Met	Pro	Gly	Leu	Lys	
				255					260					265		
GGC	TTT	GTG	GAT	GAG	CAT	ACC	ATC	AAC	ATC	TCC	CTC	AGC	CTG	CAC	CAC	1287
Gly	Phe	Val	Asp	Glu	His	Thr	Ile	Asn	Ile	Ser	Leu	Ser	Leu	His	His	
			270					275					280			
GTG	GAG	CAG	ATG	GCA	ATC	GAC	TGG	CTG	ACG	GGA	AAC	TTC	TAC	TTT	GTC	1335
Val	Glu	Gln	Met	Ala	Ile	Asp	Trp	Leu	Thr	Gly	Asn	Phe	Tyr	Phe	Val	
		285					290					295				
GAC	GAC	ATT	GAC	GAC	AGG	ATC	TTT	GTC	TGT	AAC	CGA	AAC	GGG	GAC	ACC	1383
Asp	Asp	Ile	Asp	Asp	Arg	Ile	Phe	Val	Cys	Asn	Arg	Asn	Gly	Asp	Thr	
	300					305					310					

FIG.6A-2

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TGT	GTC	ACT	CTG	CTG	GAC	CTG	GAA	CTC	TAC	AAC	CCC	AAA	GGC	ATC	GCC		1431
Cys	Val	Thr	Leu	Leu	Asp	Leu	Glu	Leu	Tyr	Asn	Pro	Lys	Gly	Ile	Ala		
315					320					325					330		
TTG	GAC	CCC	GCC	ATG	GGG	AAG	GTG	TTC	TTC	ACT	GAC	TAC	GGG	CAG	ATC		1479
Leu	Asp	Pro	Ala	Met	Gly	Lys	Val	Phe	Phe	Thr	Asp	Tyr	Gly	Gln	Ile		
				335					340					345			
CCA	AAG	GTG	GAG	CGC	TGT	GAC	ATG	GAT	GGA	CAG	AAC	CGC	ACC	AAG	CTG		1527
Pro	Lys	Val	Glu	Arg	Cys	Asp	Met	Asp	Gly	Gln	Asn	Arg	Thr	Lys	Leu		
			350					355					360				
GTG	GAT	AGC	AAG	ATC	GTG	TTT	CCA	CAC	GGC	ATC	ACC	CTG	GAC	CTG	GTC		1575
Val	Asp	Ser	Lys	Ile	Val	Phe	Pro	His	Gly	Ile	Thr	Leu	Asp	Leu	Val		
		365					370						375				
AGC	CGC	CTC	GTC	TAC	TGG	GCG	GAC	GCC	TAC	CTA	GAC	TAC	ATC	GAG	GTG		1623
Ser	Arg	Leu	Val	Tyr	Trp	Ala	Asp	Ala	Tyr	Leu	Asp	Tyr	Ile	Glu	Val		
		380				385					390						
GTA	GAC	TAC	GAA	GGG	AAG	GGT	CGG	CAG	ACC	ATC	ATC	CAA	GGC	ATC	CTG		1671
Val	Asp	Tyr	Glu	Gly	Lys	Gly	Arg	Gln	Thr	Ile	Ile	Gln	Gly	Ile	Leu		
395					400					405					410		
ATC	GAG	CAC	CTG	TAC	GGC	CTG	ACC	GTG	TTT	GAG	AAC	TAT	CTC	TAC	GCC		1719
Ile	Glu	His	Leu	Tyr	Gly	Leu	Thr	Val	Phe	Glu	Asn	Tyr	Leu	Tyr	Ala		
			415					420					425				
ACC	AAC	TCG	GAC	AAT	GCC	AAC	ACG	CAG	CAG	AAG	ACG	AGC	GTG	ATC	CGA		1767
Thr	Asn	Ser	Asp	Asn	Ala	Asn	Thr	Gln	Gln	Lys	Thr	Ser	Val	Ile	Arg		
			430					435					440				
GTG	AAC	CGG	TTC	AAC	AGT	ACT	GAG	TAC	CAG	GTC	GTC	ACC	CGT	GTG	GAC		1815
Val	Asn	Arg	Phe	Asn	Ser	Thr	Glu	Tyr	Gln	Val	Val	Thr	Arg	Val	Asp		
		445					450					455					
AAG	GGT	GGT	GCC	CTG	CAT	ATC	TAC	CAC	CAG	CGA	CGC	CAG	CCC	CGA	GTG		1863
Lys	Gly	Gly	Ala	Leu	His	Ile	Tyr	His	Gln	Arg	Arg	Gln	Pro	Arg	Val		
		460				465					470						
CGG	AGT	CAC	GCC	TGT	GAG	AAT	GAC	CAG	TAC	GGG	AAG	CCA	GGT	GGC	TGC		1911
Arg	Ser	His	Ala	Cys	Glu	Asn	Asp	Gln	Tyr	Gly	Lys	Pro	Gly	Gly	Cys		
475					480					485					490		

FIG.6A-3

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TCC	GAC	ATC	TGC	CTC	CTG	GCC	AAC	AGT	CAC	AAG	GCA	AGG	ACC	TGC	AGG	1959
Ser	Asp	Ile	Cys	Leu	Leu	Ala	Asn	Ser	His	Lys	Ala	Arg	Thr	Cys	Arg	
			495					500						505		
TGC	AGG	TCT	GGC	TTC	AGC	CTG	GGA	AGT	GAT	GGG	AAG	TCT	TGT	AAG	AAA	2007
Cys	Arg	Ser	Gly	Phe	Ser	Leu	Gly	Ser	Asp	Gly	Lys	Ser	Cys	Lys	Lys	
			510					515					520			
CCT	GAA	CAT	GAG	CTG	TTC	CTC	GTG	TAT	GGC	AAG	GGC	CGA	CCA	GGC	ATC	2055
Pro	Glu	His	Glu	Leu	Phe	Leu	Val	Tyr	Gly	Lys	Gly	Arg	Pro	Gly	Ile	
		525					530					535				
ATT	AGA	GGC	ATG	GAC	ATG	GGG	GCC	AAG	GTC	CCA	GAT	GAG	CAC	ATG	ATC	2103
Ile	Arg	Gly	Met	Asp	Met	Gly	Ala	Lys	Val	Pro	Asp	Glu	His	Met	Ile	
	540					545					550					
CCC	ATC	GAG	AAC	CTT	ATG	AAT	CCA	CGC	GCT	CTG	GAC	TTC	CAC	GCC	GAG	2151
Pro	Ile	Glu	Asn	Leu	Met	Asn	Pro	Arg	Ala	Leu	Asp	Phe	His	Ala	Glu	
555					560					565					570	
ACC	GGC	TTC	ATC	TAC	TTT	GCT	GAC	ACC	ACC	AGC	TAC	CTC	ATT	GGC	CGC	2199
Thr	Gly	Phe	Ile	Tyr	Phe	Ala	Asp	Thr	Thr	Ser	Tyr	Leu	Ile	Gly	Arg	
				575					580					585		
CAG	AAA	ATT	GAT	GGC	ACG	GAG	AGA	GAG	ACT	ATC	CTG	AAG	GAT	GGC	ATC	2247
Gln	Lys	Ile	Asp	Gly	Thr	Glu	Arg	Glu	Thr	Ile	Leu	Lys	Asp	Gly	Ile	
			590					595					600			
CAC	AAT	GTG	GAG	GGC	GTA	GCC	GTG	GAC	TGG	ATG	GGA	GAC	AAT	CTT	TAC	2295
His	Asn	Val	Glu	Gly	Val	Ala	Val	Asp	Trp	Met	Gly	Asp	Asn	Leu	Tyr	
		605					610					615				
TGG	ACT	GAT	GAT	GGC	CCC	AAG	AAG	ACC	ATT	AGT	GTG	GCC	AGG	CTG	GAG	2343
Trp	Thr	Asp	Asp	Gly	Pro	Lys	Lys	Thr	Ile	Ser	Val	Ala	Arg	Leu	Glu	
	620					625					630					
AAA	GCC	GCT	CAG	ACC	CGG	AAG	ACT	CTA	ATT	GAG	GGC	AAG	ATG	ACA	CAC	2391
Lys	Ala	Ala	Gln	Thr	Arg	Lys	Thr	Leu	Ile	Glu	Gly	Lys	Met	Thr	His	
635					640					645					650	
CCC	AGG	GCC	ATT	GTA	GTG	GAT	CCA	CTC	AAT	GGG	TGG	ATG	TAC	TGG	ACA	2439
Pro	Arg	Ala	Ile	Val	Val	Asp	Pro	Leu	Asn	Gly	Trp	Met	Tyr	Trp	Thr	
				655					660					665		

FIG.6A-4

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GAC	TGG	GAG	GAG	GAC	CCC	AAG	GAC	AGT	CGG	CGA	GGG	CGG	CTC	GAG	AGG	2487
Asp	Trp	Glu	Glu	Asp	Pro	Lys	Asp	Ser	Arg	Arg	Gly	Arg	Leu	Glu	Arg	
			670					675					680			
GCT	TGG	ATG	GAC	GGC	TCA	CAC	CGA	GAT	ATC	TTT	GTC	ACC	TCC	AAG	ACA	2535
Ala	Trp	Met	Asp	Gly	Ser	His	Arg	Asp	Ile	Phe	Val	Thr	Ser	Lys	Thr	
		685					690					695				
GTG	CTT	TGG	CCC	AAT	GGG	CTA	AGC	CTG	GAT	ATC	CCA	GCC	GGA	CGC	CTC	2583
Val	Leu	Trp	Pro	Asn	Gly	Leu	Ser	Leu	Asp	Ile	Pro	Ala	Gly	Arg	Leu	
	700					705					710					
TAC	TGG	GTG	GAT	GCC	TTC	TAT	GAC	CGA	ATT	GAG	ACC	ATA	CTG	CTC	AAT	2631
Tyr	Trp	Val	Asp	Ala	Phe	Tyr	Asp	Arg	Ile	Glu	Thr	Ile	Leu	Leu	Asn	
715					720					725					730	
GGC	ACA	GAC	CGG	AAG	ATT	GTA	TAT	GAG	GGT	CCT	GAA	CTG	AAT	CAT	GCC	2679
Gly	Thr	Asp	Arg	Lys	Ile	Val	Tyr	Glu	Gly	Pro	Glu	Leu	Asn	His	Ala	
				735					740					745		
TTC	GGC	CTG	TGT	CAC	CAT	GGC	AAC	TAC	CTC	TTT	TGG	ACC	GAG	TAC	CGG	2727
Phe	Gly	Leu	Cys	His	His	Gly	Asn	Tyr	Leu	Phe	Trp	Thr	Glu	Tyr	Arg	
			750					755					760			
AGC	GGC	AGC	GTC	TAC	CGC	TTG	GAA	CGG	GGC	GTG	GCA	GGC	GCA	CCG	CCC	2775
Ser	Gly	Ser	Val	Tyr	Arg	Leu	Glu	Arg	Gly	Val	Ala	Gly	Ala	Pro	Pro	
		765					770					775				
ACT	GTG	ACC	CTT	CTG	CGC	AGC	GAG	AGA	CCG	CCT	ATC	TTT	GAG	ATC	CGA	2823
Thr	Val	Thr	Leu	Leu	Arg	Ser	Glu	Arg	Pro	Pro	Ile	Phe	Glu	Ile	Arg	
	780					785					790					
ATG	TAC	GAC	GCG	CAC	GAG	CAG	CAA	GTG	GGT	ACC	AAC	AAA	TGC	CGG	GTA	2871
Met	Tyr	Asp	Ala	His	Glu	Gln	Gln	Val	Gly	Thr	Asn	Lys	Cys	Arg	Val	
795					800					805					810	
AAT	AAC	GGA	GGC	TGC	AGC	AGC	CTG	TGC	CTC	GCC	ACC	CCC	GGG	AGC	CGC	2919
Asn	Asn	Gly	Gly	Cys	Ser	Ser	Leu	Cys	Leu	Ala	Thr	Pro	Gly	Ser	Arg	
				815					820					825		
CAG	TGT	GCC	TGT	GCC	GAG	GAC	CAG	GTG	TTG	GAC	ACA	GAT	GGT	GTC	ACC	2967
Gln	Cys	Ala	Cys	Ala	Glu	Asp	Gln	Val	Leu	Asp	Thr	Asp	Gly	Val	Thr	
			830					835					840			

FIG.6A-5

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TGC	TTG	GCG	AAC	CCA	TCC	TAC	GTG	CCC	CCA	CCC	CAG	TGC	CAG	CCG	GGC	3015
Cys	Leu	Ala	Asn	Pro	Ser	Tyr	Val	Pro	Pro	Pro	Gln	Cys	Gln	Pro	Gly	
		845					850					855				
CAG	TTT	GCC	TGT	GCC	AAC	AAC	CGC	TGC	ATC	CAG	GAG	CGC	TGG	AAG	TGT	3063
Gln	Phe	Ala	Cys	Ala	Asn	Asn	Arg	Cys	Ile	Gln	Glu	Arg	Trp	Lys	Cys	
		860					865				870					
GAC	GGA	GAC	AAC	GAC	TGT	CTG	GAC	AAC	AGC	GAT	GAG	GCC	CCA	GCA	CTG	3111
Asp	Gly	Asp	Asn	Asp	Cys	Leu	Asp	Asn	Ser	Asp	Glu	Ala	Pro	Ala	Leu	
875					880					885					890	
TGC	CAT	CAA	CAC	ACC	TGT	CCC	TCG	GAC	CGA	TTC	AAG	TGT	GAG	AAC	AAC	3159
Cys	His	Gln	His	Thr	Cys	Pro	Ser	Asp	Arg	Phe	Lys	Cys	Glu	Asn	Asn	
				895					900					905		
CGG	TGT	ATC	CCC	AAC	CGC	TGG	CTC	TGT	GAT	GGG	GAT	AAT	GAT	TGT	GGC	3207
Arg	Cys	Ile	Pro	Asn	Arg	Trp	Leu	Cys	Asp	Gly	Asp	Asn	Asp	Cys	Gly	
			910					915					920			
AAC	AGC	GAG	GAC	GAA	TCC	AAT	GCC	ACG	TGC	TCA	GCC	CGC	ACC	TGT	CCA	3255
Asn	Ser	Glu	Asp	Glu	Ser	Asn	Ala	Thr	Cys	Ser	Ala	Arg	Thr	Cys	Pro	
		925					930					935				
CCC	AAC	CAG	TTC	TCC	TGT	GCC	AGT	GGC	CGA	TGC	ATT	CCT	ATC	TCA	TGG	3303
Pro	Asn	Gln	Phe	Ser	Cys	Ala	Ser	Gly	Arg	Cys	Ile	Pro	Ile	Ser	Trp	
		940				945					950					
ACC	TGT	GAT	CTG	GAT	GAT	GAC	TGT	GGG	GAC	CGG	TCC	GAT	GAG	TCA	GCC	3351
Thr	Cys	Asp	Leu	Asp	Asp	Asp	Cys	Gly	Asp	Arg	Ser	Asp	Glu	Ser	Ala	
955					960					965					970	
TCA	TGC	GCC	TAC	CCC	ACC	TGC	TTC	CCC	CTG	ACT	CAA	TTT	ACC	TGC	AAC	3399
Ser	Cys	Ala	Tyr	Pro	Thr	Cys	Phe	Pro	Leu	Thr	Gln	Phe	Thr	Cys	Asn	
				975					980					985		
AAT	GGC	AGA	TGT	ATT	AAC	ATC	AAC	TGG	CGG	TGT	GAC	AAC	GAC	AAT	GAC	3447
Asn	Gly	Arg	Cys	Ile	Asn	Ile	Asn	Trp	Arg	Cys	Asp	Asn	Asp	Asn	Asp	
			990					995				1000				
TGT	GGG	GAC	AAC	AGC	GAC	GAA	GCC	GGC	TGC	AGT	CAC	TCC	TGC	TCC	AGT	3495
Cys	Gly	Asp	Asn	Ser	Asp	Glu	Ala	Gly	Cys	Ser	His	Ser	Cys	Ser	Ser	
		1005					1010				1015					

FIG.6A-6

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ACC CAG TTC AAG TGC AAC AGT GGC AGA TGC ATC CCC GAG CAC TGG ACG 3543
 Thr Gln Phe Lys Cys Asn Ser Gly Arg Cys Ile Pro Glu His Trp Thr
 1020 1025 1030

TGT GAT GGG GAC AAT GAT TGT GGG GAC TAC AGC GAC GAG ACA CAC GCC 3591
 Cys Asp Gly Asp Asn Asp Cys Gly Asp Tyr Ser Asp Glu Thr His Ala
 1035 1040 1045 1050

AAC TGT ACC AAC CAG GCT ACA AGA CCT CCT GGT GGC TGC CAC TCG GAT 3639
 Asn Cys Thr Asn Gln Ala Thr Arg Pro Pro Gly Gly Cys His Ser Asp
 1055 1060 1065

GAG TTC CAG TGC CCG CTA GAT GGC CTG TGC ATC CCC CTG AGG TGG CGC 3687
 Glu Phe Gln Cys Pro Leu Asp Gly Leu Cys Ile Pro Leu Arg Trp Arg
 1070 1075 1080

TGC GAC GGG GAC ACC GAC TGC ATG GAT TCC AGC GAT GAG AAG AGC TGT 3735
 Cys Asp Gly Asp Thr Asp Cys Met Asp Ser Ser Asp Glu Lys Ser Cys
 1085 1090 1095

GAG GGC GTG ACC CAT GTT TGT GAC CCG AAT GTC AAG TTT GGC TGC AAG 3783
 Glu Gly Val Thr His Val Cys Asp Pro Asn Val Lys Phe Gly Cys Lys
 1100 1105 1110

GAC TCC GCC CGG TGC ATC AGC AAG GCG TGG GTG TGT GAT GGC GAC AGC 3831
 Asp Ser Ala Arg Cys Ile Ser Lys Ala Trp Val Cys Asp Gly Asp Ser
 1115 1120 1125 1130

GAC TGT GAA GAT AAC TCC GAC GAG GAG AAC TGT GAG GCC CTG GCC TGC 3879
 Asp Cys Glu Asp Asn Ser Asp Glu Glu Asn Cys Glu Ala Leu Ala Cys
 1135 1140 1145

AGG CCA CCC TCC CAT CCC TGC GCC AAC AAC ACC TCT GTC TGC CTG CCT 3927
 Arg Pro Pro Ser His Pro Cys Ala Asn Asn Thr Ser Val Cys Leu Pro
 1150 1155 1160

CCT GAC AAG CTG TGC GAC GGC AAG GAT GAC TGT GGA GAC GGC TCG GAT 3975
 Pro Asp Lys Leu Cys Asp Gly Lys Asp Asp Cys Gly Asp Gly Ser Asp
 1165 1170 1175

GAG GGC GAG CTC TGT GAC CAG TGT TCT CTG AAT AAT GGT GGC TGT AGT 4023
 Glu Gly Glu Leu Cys Asp Gln Cys Ser Leu Asn Asn Gly Gly Cys Ser
 1180 1185 1190

FIG.6A-7

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CAC AAC TGC TCA GTG GCC CCT GGT GAA GGC ATC GTG TGC TCT TGC CCT His Asn Cys Ser Val Ala Pro Gly Glu Gly Ile Val Cys Ser Cys Pro 1195 1200 1205 1210	4071
CTG GGC ATG GAG CTG GGC TCT GAC AAC CAC ACC TGC CAG ATC CAG AGC Leu Gly Met Glu Leu Gly Ser Asp Asn His Thr Cys Gln Ile Gln Ser 1215 1220 1225	4119
TAC TGT GCC AAG CAC CTC AAA TGC AGC CAG AAG TGT GAC CAG AAC AAG Tyr Cys Ala Lys His Leu Lys Cys Ser Gln Lys Cys Asp Gln Asn Lys 1230 1235 1240	4167
TTC AGT GTG AAG TGC TCC TGC TAC GAG GGC TGG GTC TTG GAG CCT GAC Phe Ser Val Lys Cys Ser Cys Tyr Glu Gly Trp Val Leu Glu Pro Asp 1245 1250 1255	4215
GGG GAA ACG TGC CGC AGT CTG GAT CCC TTC AAA CTG TTC ATC ATC TTC Gly Glu Thr Cys Arg Ser Leu Asp Pro Phe Lys Leu Phe Ile Ile Phe 1260 1265 1270	4263
TCC AAC CGC CAC GAG ATC AGG CGC ATT GAC CTT CAC AAG GGG GAC TAC Ser Asn Arg His Glu Ile Arg Arg Ile Asp Leu His Lys Gly Asp Tyr 1275 1280 1285 1290	4311
AGC GTC CTA GTG CCT GGC CTG CGC AAC ACT ATT GCC CTG GAC TTC CAC Ser Val Leu Val Pro Gly Leu Arg Asn Thr Ile Ala Leu Asp Phe His 1295 1300 1305	4359
CTC AGC CAG AGT GCC CTC TAC TGG ACC GAC GCG GTA GAG GAC AAG ATC Leu Ser Gln Ser Ala Leu Tyr Trp Thr Asp Ala Val Glu Asp Lys Ile 1310 1315 1320	4407
TAC CGT GGG AAA CTC CTG GAC AAC GGA GCC CTG ACC AGC TTT GAG GTG Tyr Arg Gly Lys Leu Leu Asp Asn Gly Ala Leu Thr Ser Phe Glu Val 1325 1330 1335	4455
GTG ATT CAG TAT GGC TTG GCC ACA CCA GAG GGC CTG GCT GTA GAT TGG Val Ile Gln Tyr Gly Leu Ala Thr Pro Glu Gly Leu Ala Val Asp Trp 1340 1345 1350	4503
ATT GCA GGC AAC ATC TAC TGG GTG GAG AGC AAC CTG GAC CAG ATC GAA Ile Ala Gly Asn Ile Tyr Trp Val Glu Ser Asn Leu Asp Gln Ile Glu 1355 1360 1365 1370	4551

FIG.6A-8

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GTG GCC AAG CTG GAC GGA ACC CTC CGA ACC ACT CTG CTG GCG GGT GAC 4599
Val Ala Lys Leu Asp Gly Thr Leu Arg Thr Thr Leu Leu Ala Gly Asp
1375 1380 1385

ATT GAG CAC CCG AGG GCC ATC GCT CTG GAC CCT CGG GAT GGG ATT CTG 4647
Ile Glu His Pro Arg Ala Ile Ala Leu Asp Pro Arg Asp Gly Ile Leu
1390 1395 1400

TTT TGG ACA GAC TGG GAT GCC AGC CTG CCA CGA ATC GAG GCT GCA TCC 4695
Phe Trp Thr Asp Trp Asp Ala Ser Leu Pro Arg Ile Glu Ala Ala Ser
1405 1410 1415

ATG AGT GGA GCT GGC CGC CGA ACC ATC CAC CGG GAG ACA GGC TCT GGG 4743
Met Ser Gly Ala Gly Arg Arg Thr Ile His Arg Glu Thr Gly Ser Gly
1420 1425 1430

GGC TGC GCC AAT GGG CTC ACC GTG GAT TAC CTG GAG AAG CGC ATC CTC 4791
Gly Cys Ala Asn Gly Leu Thr Val Asp Tyr Leu Glu Lys Arg Ile Leu
1435 1440 1445 1450

TGG ATT GAT GCT AGG TCA GAT GCC ATC TAT TCA GCC CGG TAT GAC GGC 4839
Trp Ile Asp Ala Arg Ser Asp Ala Ile Tyr Ser Ala Arg Tyr Asp Gly
1455 1460 1465

TCC GGC CAC ATG GAG GTG CTT CGG GGA CAC GAG TTC CTG TCA CAC CCA 4887
Ser Gly His Met Glu Val Leu Arg Gly His Glu Phe Leu Ser His Pro
1470 1475 1480

TTT GCC GTG ACA CTG TAC GGT GGG GAG GTG TAC TGG ACC GAC TGG CGA 4935
Phe Ala Val Thr Leu Tyr Gly Gly Glu Val Tyr Trp Thr Asp Trp Arg
1485 1490 1495

ACA AAT ACA CTG GCT AAG GCC AAC AAG TGG ACT GGC CAC AAC GTC ACC 4983
Thr Asn Thr Leu Ala Lys Ala Asn Lys Trp Thr Gly His Asn Val Thr
1500 1505 1510

GTG GTA CAG AGG ACC AAC ACC CAG CCC TTC GAC CTG CAG GTG TAT CAC 5031
Val Val Gln Arg Thr Asn Thr Gln Pro Phe Asp Leu Gln Val Tyr His
1515 1520 1525 1530

CCT TCC CGG CAG CCC ATG GCT CCA AAC CCA TGT GAG GCC AAT GGC GGC 5079
Pro Ser Arg Gln Pro Met Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly
1535 1540 1545

FIG.6A-9

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CGG GGC CCC TGT TCC CAT CTG TGC CTC ATC AAC TAC AAC CGG ACC GTC Arg Gly Pro Cys Ser His Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val 1550 1555 1560	5127
TCC TGG GCC TGT CCC CAC CTC ATG AAG CTG CAC AAG GAC AAC ACC ACC Ser Trp Ala Cys Pro His Leu Met Lys Leu His Lys Asp Asn Thr Thr 1565 1570 1575	5175
TGC TAT GAG TTT AAG AAG TTC CTG CTG TAC GCA CGT CAG ATG GAG ATC Cys Tyr Glu Phe Lys Lys Phe Leu Leu Tyr Ala Arg Gln Met Glu Ile 1580 1585 1590	5223
CGG GGC GTG GAC CTG GAT GCC CCG TAC TAC AAT TAT ATC ATC TCC TTC Arg Gly Val Asp Leu Asp Ala Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe 1595 1600 1605 1610	5271
ACG GTG CCT GAT ATC GAC AAT GTC ACG GTG CTG GAC TAT GAT GCC CGA Thr Val Pro Asp Ile Asp Asn Val Thr Val Leu Asp Tyr Asp Ala Arg 1615 1620 1625	5319
GAG CAG CGA GTT TAC TGG TCT GAT GTG CGG ACT CAA GCC ATC AAA AGG Glu Gln Arg Val Tyr Trp Ser Asp Val Arg Thr Gln Ala Ile Lys Arg 1630 1635 1640	5367
GCA TTT ATC AAC GGC ACT GGC GTG GAG ACC GTT GTC TCT GCA GAC TTG Ala Phe Ile Asn Gly Thr Gly Val Glu Thr Val Val Ser Ala Asp Leu 1645 1650 1655	5415
CCC AAC GCC CAC GGG CTG GCT GTG GAC TGG GTC TCC CGA AAT CTG TTT Pro Asn Ala His Gly Leu Ala Val Asp Trp Val Ser Arg Asn Leu Phe 1660 1665 1670	5463
TGG ACA AGT TAC GAC ACC AAC AAG AAG CAG ATT AAC GTG GCC CGG CTG Trp Thr Ser Tyr Asp Thr Asn Lys Lys Gln Ile Asn Val Ala Arg Leu 1675 1680 1685 1690	5511
GAC GGC TCC TTC AAG AAT GCG GTG GTG CAG GGC CTG GAG CAG CCC CAC Asp Gly Ser Phe Lys Asn Ala Val Val Gln Gly Leu Glu Gln Pro His 1695 1700 1705	5559
GGC CTG GTC GTC CAC CCG CTT CGT GGC AAG CTC TAC TGG ACT GAT GGG Gly Leu Val Val His Pro Leu Arg Gly Lys Leu Tyr Trp Thr Asp Gly 1710 1715 1720	5607

FIG.6A-10

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GAC AAC ATC AGC ATG GCC AAC ATG GAT GGG AGC AAC CAC ACT CTG CTC Asp Asn Ile Ser Met Ala Asn Met Asp Gly Ser Asn His Thr Leu Leu 1725 1730 1735	5655
TTC AGT GGC CAG AAG GGC CCT GTG GGG TTG GCC ATT GAC TTC CCT GAG Phe Ser Gly Gln Lys Gly Pro Val Gly Leu Ala Ile Asp Phe Pro Glu 1740 1745 1750	5703
AGC AAA CTC TAC TGG ATC AGC TCT GGG AAC CAC ACA ATC AAC CGT TGC Ser Lys Leu Tyr Trp Ile Ser Ser Gly Asn His Thr Ile Asn Arg Cys 1755 1760 1765 1770	5751
AAT CTG GAT GGG AGC GAG CTG GAG GTC ATC GAC ACC ATG CGG AGC CAG Asn Leu Asp Gly Ser Glu Leu Glu Val Ile Asp Thr Met Arg Ser Gln 1775 1780 1785	5799
CTG GGC AAG GCC ACT GCC CTG GCC ATC ATG GGG GAC AAG CTG TGG TGG Leu Gly Lys Ala Thr Ala Leu Ala Ile Met Gly Asp Lys Leu Trp Trp 1790 1795 1800	5847
GCA GAT CAG GTG TCA GAG AAG ATG GGC ACG TGC AAC AAA GCC GAT GGC Ala Asp Gln Val Ser Glu Lys Met Gly Thr Cys Asn Lys Ala Asp Gly 1805 1810 1815	5895
TCT GGG TCC GTG GTG CTG CGG AAC AGT ACC ACG TTG GTT ATG CAC ATG Ser Gly Ser Val Val Leu Arg Asn Ser Thr Thr Leu Val Met His Met 1820 1825 1830	5943
AAG GTG TAT GAC GAG AGC ATC CAG CTA GAG CAT GAG GGC ACC AAC CCC Lys Val Tyr Asp Glu Ser Ile Gln Leu Glu His Glu Gly Thr Asn Pro 1835 1840 1845 1850	5991
TGC AGT GTC AAC AAC GGA GAC TGT TCC CAG CTC TGC CTG CCA ACA TCA Cys Ser Val Asn Asn Gly Asp Cys Ser Gln Leu Cys Leu Pro Thr Ser 1855 1860 1865	6039
GAG ACG ACT CGC TCC TGT ATG TGT ACA GCC GGT TAC AGC CTC CGG AGC Glu Thr Thr Arg Ser Cys Met Cys Thr Ala Gly Tyr Ser Leu Arg Ser 1870 1875 1880	6087
GGA CAG CAG GCC TGT GAG GGT GTG GGC TCT TTT CTC CTG TAC TCT GTA Gly Gln Gln Ala Cys Glu Gly Val Gly Ser Phe Leu Leu Tyr Ser Val 1885 1890 1895	6135

FIG.6A-11

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CAT GAG GGA ATT CGG GGG ATT CCA CTA GAT CCC AAT GAC AAG TCG GAT His Glu Gly Ile Arg Gly Ile Pro Leu Asp Pro Asn Asp Lys Ser Asp 1900 1905 1910	6183
GCC CTG GTC CCA GTG TCC GGA ACT TCA CTG GCT GTC GGA ATC GAC TTC Ala Leu Val Pro Val Ser Gly Thr Ser Leu Ala Val Gly Ile Asp Phe 1915 1920 1925 1930	6231
CAT GCC GAA AAT GAC ACT ATT TAT TGG GTG GAT ATG GGC CTA AGC ACC His Ala Glu Asn Asp Thr Ile Tyr Trp Val Asp Met Gly Leu Ser Thr 1935 1940 1945	6279
ATC AGC AGG GCC AAG CGT GAC CAG ACA TGG CGA GAG GAT GTG GTG ACC Ile Ser Arg Ala Lys Arg Asp Gln Thr Trp Arg Glu Asp Val Val Thr 1950 1955 1960	6327
AAC GGT ATT GGC CGT GTG GAG GGC ATC GCC GTG GAC TGG ATC GCA GGC Asn Gly Ile Gly Arg Val Glu Gly Ile Ala Val Asp Trp Ile Ala Gly 1965 1970 1975	6375
AAC ATA TAC TGG ACG GAC CAG GGC TTC GAT GTC ATC GAG GTT GCC CGG Asn Ile Tyr Trp Thr Asp Gln Gly Phe Asp Val Ile Glu Val Ala Arg 1980 1985 1990	6423
CTC AAT GGC TCT TTT CGT TAT GTG GTC ATT TCC CAG GGT CTG GAC AAG Leu Asn Gly Ser Phe Arg Tyr Val Val Ile Ser Gln Gly Leu Asp Lys 1995 2000 2005 2010	6471
CCT CGG GCC ATC ACT GTC CAC CCA GAG AAG GGG TAC TTG TTC TGG ACC Pro Arg Ala Ile Thr Val His Pro Glu Lys Gly Tyr Leu Phe Trp Thr 2015 2020 2025	6519
GAG TGG GGT CAT TAC CCA CGT ATT GAG CGG TCT CGC CTT GAT GGC ACA Glu Trp Gly His Tyr Pro Arg Ile Glu Arg Ser Arg Leu Asp Gly Thr 2030 2035 2040	6567
GAG AGA GTG GTG TTG GTT AAT GTC AGC ATC AGC TGG CCC AAT GGC ATC Glu Arg Val Val Leu Val Asn Val Ser Ile Ser Trp Pro Asn Gly Ile 2045 2050 2055	6615
TCA GTA GAC TAT CAG GGC GGC AAG CTC TAC TGG TGT GAT GCT CGG ATG Ser Val Asp Tyr Gln Gly Gly Lys Leu Tyr Trp Cys Asp Ala Arg Met 2060 2065 2070	6663

FIG.6A-12

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GAC AAG ATC GAG CGC ATC GAC CTG GAA ACG GGC GAG AAC CGG GAG GTG Asp Lys Ile Glu Arg Ile Asp Leu Glu Thr Gly Glu Asn Arg Glu Val 2075 2080 2085 2090	6711
GTC CTG TCC AGC AAT AAC ATG GAT ATG TTC TCC GTG TCC GTG TTT GAG Val Leu Ser Ser Asn Asn Met Asp Met Phe Ser Val Ser Val Phe Glu 2095 2100 2105	6759
GAC TTC ATC TAC TGG AGT GAC AGA ACT CAC GCC AAT GGC TCC ATC AAG Asp Phe Ile Tyr Trp Ser Asp Arg Thr His Ala Asn Gly Ser Ile Lys 2110 2115 2120	6807
CGC GGC TGC AAA GAC AAT GCT ACA GAC TCC GTG CCT CTG AGG ACA GGC Arg Gly Cys Lys Asp Asn Ala Thr Asp Ser Val Pro Leu Arg Thr Gly 2125 2130 2135	6855
ATT GGT GTT CAG CTT AAA GAC ATC AAG GTC TTC AAC AGG GAC AGG CAG Ile Gly Val Gln Leu Lys Asp Ile Lys Val Phe Asn Arg Asp Arg Gln 2140 2145 2150	6903
AAG GGT ACC AAT GTG TGC GCG GTA GCC AAC GGC GGG TGC CAG CAG CTC Lys Gly Thr Asn Val Cys Ala Val Ala Asn Gly Gly Cys Gln Gln Leu 2155 2160 2165 2170	6951
TGC TTG TAT CGG GGT GGC GGA CAG CGA GCC TGT GCC TGT GCC CAC GGG Cys Leu Tyr Arg Gly Gly Gly Gln Arg Ala Cys Ala Cys Ala His Gly 2175 2180 2185	6999
ATG CTG GCA GAA GAC GGG GCC TCA TGC CGA GAG TAC GCT GGC TAC CTG Met Leu Ala Glu Asp Gly Ala Ser Cys Arg Glu Tyr Ala Gly Tyr Leu 2190 2195 2200	7047
CTC TAC TCA GAG CGG ACC ATC CTC AAG AGC ATC CAC CTG TCG GAT GAG Leu Tyr Ser Glu Arg Thr Ile Leu Lys Ser Ile His Leu Ser Asp Glu 2205 2210 2215	7095
CGT AAC CTC AAC GCA CCG GTG CAG CCC TTT GAA GAC CCC GAG CAC ATG Arg Asn Leu Asn Ala Pro Val Gln Pro Phe Glu Asp Pro Glu His Met 2220 2225 2230	7143
AAA AAT GTC ATC GCC CTG GCC TTT GAC TAC CGA GCA GGC ACC TCC CCG Lys Asn Val Ile Ala Leu Ala Phe Asp Tyr Arg Ala Gly Thr Ser Pro 2235 2240 2245 2250	7191

FIG.6A-13

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GGG ACC CCT AAC CGC ATC TTC TTC AGT GAC ATC CAC TTT GGG AAC ATC	7239
Gly Thr Pro Asn Arg Ile Phe Phe Ser Asp Ile His Phe Gly Asn Ile	
2255 2260 2265	
CAG CAG ATC AAT GAC GAT GGC TCG GGC AGG ACC ACC ATC GTG GAA AAT	7287
Gln Gln Ile Asn Asp Asp Gly Ser Gly Arg Thr Thr Ile Val Glu Asn	
2270 2275 2280	
GTG GGC TCT GTG GAA GGC CTG GCC TAT CAC CGT GGC TGG GAC ACA CTG	7335
Val Gly Ser Val Glu Gly Leu Ala Tyr His Arg Gly Trp Asp Thr Leu	
2285 2290 2295	
TAC TGG ACA AGC TAC ACC ACA TCC ACC ATC ACC CGC CAC ACC GTG GAC	7383
Tyr Trp Thr Ser Tyr Thr Thr Ser Thr Ile Thr Arg His Thr Val Asp	
2300 2305 2310	
CAG ACT CGC CCA GGG GCC TTC GAG AGG GAG ACA GTC ATC ACC ATG TCC	7431
Gln Thr Arg Pro Gly Ala Phe Glu Arg Glu Thr Val Ile Thr Met Ser	
2315 2320 2325 2330	
GGA GAC GAC CAC CCG AGA GCC TTT GTG CTG GAT GAG TGC CAG AAC CTG	7479
Gly Asp Asp His Pro Arg Ala Phe Val Leu Asp Glu Cys Gln Asn Leu	
2335 2340 2345	
ATG TTC TGG ACC AAT TGG AAC GAG CTC CAT CCA AGC ATC ATG CGG GCA	7527
Met Phe Trp Thr Asn Trp Asn Glu Leu His Pro Ser Ile Met Arg Ala	
2350 2355 2360	
GCC CTA TCC GGA GCC AAC GTC CTG ACC CTC ATT GAG AAG GAC ATC CGC	7575
Ala Leu Ser Gly Ala Asn Val Leu Thr Leu Ile Glu Lys Asp Ile Arg	
2365 2370 2375	
ACG CCC AAT GGG TTG GCC ATC GAC CAC CGG GCG GAG AAG CTG TAC TTC	7623
Thr Pro Asn Gly Leu Ala Ile Asp His Arg Ala Glu Lys Leu Tyr Phe	
2380 2385 2390	
TCG GAT GCC ACC TTG GAC AAG ATC GAG CGC TGC GAG TAC GAC GGC TCC	7671
Ser Asp Ala Thr Leu Asp Lys Ile Glu Arg Cys Glu Tyr Asp Gly Ser	
2395 2400 2405 2410	
CAC CGC TAT GTG ATC CTA AAG TCG GAG CCC GTC CAC CCC TTT GGG TTG	7719
His Arg Tyr Val Ile Leu Lys Ser Glu Pro Val His Pro Phe Gly Leu	
2415 2420 2425	

FIG.6A-14

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GCG GTG TAC GGA GAG CAC ATT TTC TGG ACT GAC TGG GTG CGG CGG GCT Ala Val Tyr Gly Glu His Ile Phe Trp Thr Asp Trp Val Arg Arg Ala 2430 2435 2440	7767
GTG CAG CGA GCC AAC AAG TAT GTG GGC AGC GAC ATG AAG CTG CTT CGG Val Gln Arg Ala Asn Lys Tyr Val Gly Ser Asp Met Lys Leu Leu Arg 2445 2450 2455	7815
GTG GAC ATT CCC CAG CAA CCC ATG GGC ATC ATC GCC GTG GCC AAT GAC Val Asp Ile Pro Gln Gln Pro Met Gly Ile Ile Ala Val Ala Asn Asp 2460 2465 2470	7863
ACC AAC AGC TGT GAA CTC TCC CCC TGC CGT ATC AAC AAT GGA GGC TGC Thr Asn Ser Cys Glu Leu Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys 2475 2480 2485 2490	7911
CAG GAT CTG TGT CTG CTC ACC CAC CAA GGC CAC GTC AAC TGT TCC TGT Gln Asp Leu Cys Leu Leu Thr His Gln Gly His Val Asn Cys Ser Cys 2495 2500 2505	7959
CGA GGG GGC CGG ATC CTC CAG GAG GAC TTC ACC TGC CGG GCT GTG AAC Arg Gly Gly Arg Ile Leu Gln Glu Asp Phe Thr Cys Arg Ala Val Asn 2510 2515 2520	8007
TCC TCT TGT CGG GCA CAA GAT GAG TTT GAG TGT GCC AAT GGG GAA TGT Ser Ser Cys Arg Ala Gln Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys 2525 2530 2535	8055
ATC AGC TTC AGC CTC ACC TGT GAT GGC GTC TCC CAC TGC AAG GAC AAG Ile Ser Phe Ser Leu Thr Cys Asp Gly Val Ser His Cys Lys Asp Lys 2540 2545 2550	8103
TCC GAT GAG AAG CCC TCC TAC TGC AAC TCA CGC CGC TGC AAG AAG ACT Ser Asp Glu Lys Pro Ser Tyr Cys Asn Ser Arg Arg Cys Lys Lys Thr 2555 2560 2565 2570	8151
TTC CGC CAG TGT AAC AAT GGC CGC TGT GTA TCC AAC ATG CTG TGG TGC Phe Arg Gln Cys Asn Asn Gly Arg Cys Val Ser Asn Met Leu Trp Cys 2575 2580 2585	8199
AAT GGG GTG GAT TAC TGT GGG GAT GGC TCT GAT GAG ATA CCT TGC AAC Asn Gly Val Asp Tyr Cys Gly Asp Gly Ser Asp Glu Ile Pro Cys Asn 2590 2595 2600	8247

FIG.6A-15

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AAG ACT GCC TGT GGT GTG GGT GAG TTC CGC TGC CGG GAT GGG TCC TGC	8295
Lys Thr Ala Cys Gly Val Gly Glu Phe Arg Cys Arg Asp Gly Ser Cys	
2605 2610 2615	
ATC GGG AAC TCC AGT CGC TGC AAC CAG TTT GTG GAT TGT GAG GAT GCC	8343
Ile Gly Asn Ser Ser Arg Cys Asn Gln Phe Val Asp Cys Glu Asp Ala	
2620 2625 2630	
TCG GAT GAG ATG AAT TGC AGT GCC ACA GAC TGC AGC AGC TAT TTC CGC	8391
Ser Asp Glu Met Asn Cys Ser Ala Thr Asp Cys Ser Ser Tyr Phe Arg	
2635 2640 2645 2650	
CTG GGC GTG AAA GGT GTC CTC TTC CAG CCG TGC GAG CGG ACA TCC CTG	8439
Leu Gly Val Lys Gly Val Leu Phe Gln Pro Cys Glu Arg Thr Ser Leu	
2655 2660 2665	
TGC TAC GCA CCT AGC TGG GTG TGT GAT GGC GCC AAC GAC TGT GGA GAC	8487
Cys Tyr Ala Pro Ser Trp Val Cys Asp Gly Ala Asn Asp Cys Gly Asp	
2670 2675 2680	
TAC AGC GAT GAA CGT GAC TGT CCA GGT GTG AAG CGC CCT AGG TGC CCG	8535
Tyr Ser Asp Glu Arg Asp Cys Pro Gly Val Lys Arg Pro Arg Cys Pro	
2685 2690 2695	
CTC AAT TAC TTT GCC TGC CCC AGC GGG CGC TGT ATC CCC ATG AGC TGG	8583
Leu Asn Tyr Phe Ala Cys Pro Ser Gly Arg Cys Ile Pro Met Ser Trp	
2700 2705 2710	
ACG TGT GAC AAG GAG GAT GAC TGT GAG AAC GGC GAG GAT GAG ACC CAC	8631
Thr Cys Asp Lys Glu Asp Asp Cys Glu Asn Gly Glu Asp Glu Thr His	
2715 2720 2725 2730	
TGC AAC AAG TTC TGC TCA GAG GCA CAG TTC GAG TGC CAG AAC CAC CGG	8679
Cys Asn Lys Phe Cys Ser Glu Ala Gln Phe Glu Cys Gln Asn His Arg	
2735 2740 2745	
TGT ATC TCC AAG CAG TGG CTG TGT GAC GGT AGC GAT GAT TGC GGG GAT	8727
Cys Ile Ser Lys Gln Trp Leu Cys Asp Gly Ser Asp Asp Cys Gly Asp	
2750 2755 2760	
GGC TCC GAT GAG GCA GCT CAC TGT GAA GGC AAG ACA TGT GGC CCC TCC	8775
Gly Ser Asp Glu Ala Ala His Cys Glu Gly Lys Thr Cys Gly Pro Ser	
2765 2770 2775	

FIG.6A-16

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TCC	TTC	TCC	TGT	CCC	GGC	ACC	CAC	GTG	TGT	GTC	CCT	GAG	CGC	TGG	CTC	8823
Ser	Phe	Ser	Cys	Pro	Gly	Thr	His	Val	Cys	Val	Pro	Glu	Arg	Trp	Leu	
2780					2785					2790						
TGT	GAT	GGC	GAC	AAG	GAC	TGT	ACC	GAT	GGC	GCG	GAT	GAG	AGT	GTC	ACT	8871
Cys	Asp	Gly	Asp	Lys	Asp	Cys	Thr	Asp	Gly	Ala	Asp	Glu	Ser	Val	Thr	
2795				2800					2805					2810		
GCT	GGC	TGC	CTG	TAC	AAC	AGC	ACC	TGT	GAT	GAC	CGT	GAG	TTC	ATG	TGC	8919
Ala	Gly	Cys	Leu	Tyr	Asn	Ser	Thr	Cys	Asp	Asp	Arg	Glu	Phe	Met	Cys	
			2815					2820						2825		
CAG	AAC	CGC	TTG	TGT	ATT	CCC	AAG	CAT	TTC	GTG	TGC	GAC	CAT	GAC	CGT	8967
Gln	Asn	Arg	Leu	Cys	Ile	Pro	Lys	His	Phe	Val	Cys	Asp	His	Asp	Arg	
			2830				2835						2840			
GAC	TGT	GCT	GAT	GGC	TCT	GAT	GAA	TCC	CCT	GAG	TGT	GAG	TAC	CCA	ACC	9015
Asp	Cys	Ala	Asp	Gly	Ser	Asp	Glu	Ser	Pro	Glu	Cys	Glu	Tyr	Pro	Thr	
	2845					2850						2855				
TGC	GGG	CCC	AAT	GAA	TTC	CGC	TGT	GCC	AAT	GGG	CGT	TGT	CTG	AGC	TCC	9063
Cys	Gly	Pro	Asn	Glu	Phe	Arg	Cys	Ala	Asn	Gly	Arg	Cys	Leu	Ser	Ser	
	2860					2865				2870						
CGT	CAG	TGG	GAA	TGT	GAT	GGG	GAG	AAT	GAC	TGT	CAC	GAC	CAC	AGC	GAT	9111
Arg	Gln	Trp	Glu	Cys	Asp	Gly	Glu	Asn	Asp	Cys	His	Asp	His	Ser	Asp	
2875				2880				2885						2890		
GAG	GCT	CCC	AAG	AAC	CCA	CAC	TGC	ACC	AGC	CCA	GAG	CAC	AAA	TGC	AAT	9159
Glu	Ala	Pro	Lys	Asn	Pro	His	Cys	Thr	Ser	Pro	Glu	His	Lys	Cys	Asn	
			2895					2900						2905		
GCC	TCA	TCA	CAG	TTC	CTG	TGC	AGC	AGC	GGG	CGC	TGC	GTG	GCT	GAG	GCG	9207
Ala	Ser	Ser	Gln	Phe	Leu	Cys	Ser	Ser	Gly	Arg	Cys	Val	Ala	Glu	Ala	
			2910					2915					2920			
TTG	CTC	TGC	AAC	GGC	CAG	GAC	GAC	TGT	GGG	GAC	GGT	TCA	GAC	GAA	CGC	9255
Leu	Leu	Cys	Asn	Gly	Gln	Asp	Asp	Cys	Gly	Asp	Gly	Ser	Asp	Glu	Arg	
	2925					2930						2935				
GGG	TGC	CAT	GTC	AAC	GAG	TGT	CTC	AGC	CGC	AAG	CTC	AGT	GGC	TGC	AGT	9303
Gly	Cys	His	Val	Asn	Glu	Cys	Leu	Ser	Arg	Lys	Leu	Ser	Gly	Cys	Ser	
	2940					2945					2950					

FIG.6A-17

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CAG GAC TGC GAG GAC CTC AAG ATA GGC TTT AAG TGC CGC TGT CGC CCG Gln Asp Cys Glu Asp Leu Lys Ile Gly Phe Lys Cys Arg Cys Arg Pro 2955 2960 2965 2970	9351
GGC TTC CGG CTA AAG GAC GAT GGC AGG ACC TGT GCC GAC CTG GAT GAG Gly Phe Arg Leu Lys Asp Asp Gly Arg Thr Cys Ala Asp Leu Asp Glu 2975 2980 2985	9399
TGC AGC ACC ACC TTC CCC TGC AGC CAG CTC TGC ATC AAC ACC CAC GGA Cys Ser Thr Thr Phe Pro Cys Ser Gln Leu Cys Ile Asn Thr His Gly 2990 2995 3000	9447
AGT TAC AAG TGT CTG TGT GTG GAG GGC TAT GCA CCC CGT GGC GGT GAC Ser Tyr Lys Cys Leu Cys Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp 3005 3010 3015	9495
CCC CAC AGC TGC AAA GCT GTG ACC GAT GAG GAG CCA TTT CTC ATC TTT Pro His Ser Cys Lys Ala Val Thr Asp Glu Glu Pro Phe Leu Ile Phe 3020 3025 3030	9543
GCC AAC CGG TAC TAC CTG CGG AAG CTC AAC CTG GAC GGC TCC AAC TAC Ala Asn Arg Tyr Tyr Leu Arg Lys Leu Asn Leu Asp Gly Ser Asn Tyr 3035 3040 3045 3050	9591
ACA CTG CTT AAG CAG GGC CTG AAC AAT GCG GTC GCC TTG GCA TTT GAC Thr Leu Leu Lys Gln Gly Leu Asn Asn Ala Val Ala Leu Ala Phe Asp 3055 3060 3065	9639
TAC CGA GAG CAG ATG ATC TAC TGG ACG GGC GTG ACC ACC CAG GGC AGC Tyr Arg Glu Gln Met Ile Tyr Trp Thr Gly Val Thr Thr Gln Gly Ser 3070 3075 3080	9687
ATG ATT CGC AGG ATG CAC CTC AAC GGC AGC AAC GTG CAG GTT CTG CAC Met Ile Arg Arg Met His Leu Asn Gly Ser Asn Val Gln Val Leu His 3085 3090 3095	9735
CGG ACG GGC CTT AGT AAC CCA GAT GGG CTC GCT GTG GAC TGG GTG GGT Arg Thr Gly Leu Ser Asn Pro Asp Gly Leu Ala Val Asp Trp Val Gly 3100 3105 3110	9783
GGC AAC CTG TAC TGG TGT GAC AAG GGC AGA GAT ACC ATT GAG GTG TCC Gly Asn Leu Tyr Trp Cys Asp Lys Gly Arg Asp Thr Ile Glu Val Ser 3115 3120 3125 3130	9831

FIG.6A-18

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AAG CTT AAC GGG GCC TAT CGG ACA GTG CTG GTC AGC TCT GGC CTC CGG Lys Leu Asn Gly Ala Tyr Arg Thr Val Leu Val Ser Ser Gly Leu Arg 3135 3140 3145	9879
GAG CCC AGA GCT CTG GTA GTG GAT GTA CAG AAT GGG TAC CTG TAC TGG Glu Pro Arg Ala Leu Val Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp 3150 3155 3160	9927
ACA GAC TGG GGT GAC CAC TCA CTG ATC GGC CGG ATT GGC ATG GAT GGA Thr Asp Trp Gly Asp His Ser Leu Ile Gly Arg Ile Gly Met Asp Gly 3165 3170 3175	9975
TCT GGC CGC AGC ATC ATC GTG GAC ACT AAG ATC ACA TGG CCC AAT GGC Ser Gly Arg Ser Ile Ile Val Asp Thr Lys Ile Thr Trp Pro Asn Gly 3180 3185 3190	10023
CTG ACC GTG GAC TAC GTC ACG GAA CGC ATC TAC TGG GCT GAC GCC CGT Leu Thr Val Asp Tyr Val Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg 3195 3200 3205 3210	10071
GAG GAC TAC ATC GAG TTC GCC AGC CTG GAT GGC TCC AAC CGT CAC GTT Glu Asp Tyr Ile Glu Phe Ala Ser Leu Asp Gly Ser Asn Arg His Val 3215 3220 3225	10119
GTG CTG AGC CAA GAC ATC CCA CAC ATC TTT GCG CTG ACC CTA TTT GAA Val Leu Ser Gln Asp Ile Pro His Ile Phe Ala Leu Thr Leu Phe Glu 3230 3235 3240	10167
GAC TAC GTC TAC TGG ACA GAC TGG GAA ACG AAG TCC ATC AAC CGG GCC Asp Tyr Val Tyr Trp Thr Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala 3245 3250 3255	10215
CAC AAG ACC ACG GGT GCC AAC AAA ACA CTC CTC ATC AGC ACC CTG CAC His Lys Thr Thr Gly Ala Asn Lys Thr Leu Leu Ile Ser Thr Leu His 3260 3265 3270	10263
CGG CCC ATG GAC TTA CAT GTA TTC CAC GCC CTG CGC CAG CCA GAT GTG Arg Pro Met Asp Leu His Val Phe His Ala Leu Arg Gln Pro Asp Val 3275 3280 3285 3290	10311
CCC AAT CAC CCC TGC AAA GTC AAC AAT GGT GGC TGC AGC AAC CTG TGC Pro Asn His Pro Cys Lys Val Asn Asn Gly Gly Cys Ser Asn Leu Cys 3295 3300 3305	10359

FIG.6A-19

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CTG CTG TCC CCT GGG GGT GGT CAC AAG TGC GCC TGC CCC ACC AAC TTC	10407
Leu Leu Ser Pro Gly Gly Gly His Lys Cys Ala Cys Pro Thr Asn Phe	
3310 3315 3320	
TAT CTG GGT GGC GAT GGC CGT ACC TGT GTG TCC AAC TGC ACA GCA AGC	10455
Tyr Leu Gly Gly Asp Gly Arg Thr Cys Val Ser Asn Cys Thr Ala Ser	
3325 3330 3335	
CAG TTT GTG TGC AAA AAT GAC AAG TGC ATC CCC TTC TGG TGG AAG TGT	10503
Gln Phe Val Cys Lys Asn Asp Lys Cys Ile Pro Phe Trp Trp Lys Cys	
3340 3345 3350	
GAC ACG GAG GAC GAC TGT GGG GAT CAC TCA GAC GAG CCT CCA GAC TGT	10551
Asp Thr Glu Asp Asp Cys Gly Asp His Ser Asp Glu Pro Pro Asp Cys	
3355 3360 3365 3370	
CCC GAG TTC AAG TGC CGC CCA GGC CAG TTC CAG TGC TCC ACC GGC ATC	10599
Pro Glu Phe Lys Cys Arg Pro Gly Gln Phe Gln Cys Ser Thr Gly Ile	
3375 3380 3385	
TGC ACC AAC CCT GCC TTC ATC TGT GAT GGG GAC AAT GAC TGC CAA GAC	10647
Cys Thr Asn Pro Ala Phe Ile Cys Asp Gly Asp Asn Asp Cys Gln Asp	
3390 3395 3400	
AAT AGT GAC GAG GCC AAT TGC GAC ATT CAC GTC TGC TTG CCC AGC CAA	10695
Asn Ser Asp Glu Ala Asn Cys Asp Ile His Val Cys Leu Pro Ser Gln	
3405 3410 3415	
TTC AAG TGC ACC AAC ACC AAC CGC TGC ATT CCT GGC ATC TTC CGT TGC	10743
Phe Lys Cys Thr Asn Thr Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys	
3420 3425 3430	
AAT GGG CAG GAC AAC TGC GGG GAC GGC GAG GAT GAG CGG GAT TGC CCT	10791
Asn Gly Gln Asp Asn Cys Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro	
3435 3440 3445 3450	
GAG GTG ACC TGC GCC CCC AAC CAG TTC CAG TGC TCC ATC ACC AAG CGC	10839
Glu Val Thr Cys Ala Pro Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg	
3455 3460 3465	
TGC ATC CCT CGC GTC TGG GTC TGT GAC AGG GAT AAT CAC TGT GTG GAC	10887
Cys Ile Pro Arg Val Trp Val Cys Asp Arg Asp Asn His Cys Val Asp	
3470 3475 3480	

FIG.6A-20

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GGC AGT GAT GAG CCT GCC AAC TGT ACC CAA ATG ACC TGT GGA GTG GAT Gly Ser Asp Glu Pro Ala Asn Cys Thr Gln Met Thr Cys Gly Val Asp 3485 3490 3495	10935
GAG TTC CGC TGC AAG GAT TCT GGC CGC TGC ATC CCC GCG CGC TGG AAG Glu Phe Arg Cys Lys Asp Ser Gly Arg Cys Ile Pro Ala Arg Trp Lys 3500 3505 3510	10983
TGT GAC GGA GAA GAT GAC TGT GGG GAT GGT TCA GAT GAG CCC AAG GAA Cys Asp Gly Glu Asp Asp Cys Gly Asp Gly Ser Asp Glu Pro Lys Glu 3515 3520 3525 3530	11031
GAG TGT GAT GAG CGC ACC TGT GAG CCA TAC CAG TTC CGC TGC AAA AAC Glu Cys Asp Glu Arg Thr Cys Glu Pro Tyr Gln Phe Arg Cys Lys Asn 3535 3540 3545	11079
AAC CGC TGT GTC CCA GGC CGT TGG CAA TGT GAC TAC GAC AAC GAC TGC Asn Arg Cys Val Pro Gly Arg Trp Gln Cys Asp Tyr Asp Asn Asp Cys 3550 3555 3560	11127
GGA GAT AAC TCG GAC GAG GAG AGC TGC ACA CCT CGG CCC TGC TCT GAG Gly Asp Asn Ser Asp Glu Glu Ser Cys Thr Pro Arg Pro Cys Ser Glu 3565 3570 3575	11175
AGT GAG TTT TTC TGT GCC AAT GGC CGC TGC ATC GCT GGG CGC TGG AAG Ser Glu Phe Phe Cys Ala Asn Gly Arg Cys Ile Ala Gly Arg Trp Lys 3580 3585 3590	11223
TGT GAT GGG GAC CAT GAC TGT GCC GAC GGC TCA GAC GAG AAA GAC TGC Cys Asp Gly Asp His Asp Cys Ala Asp Gly Ser Asp Glu Lys Asp Cys 3595 3600 3605 3610	11271
ACC CCC CGC TGT GAT ATG GAC CAG TTC CAG TGC AAG AGT GGC CAC TGC Thr Pro Arg Cys Asp Met Asp Gln Phe Gln Cys Lys Ser Gly His Cys 3615 3620 3625	11319
ATC CCC CTG CGC TGG CCG TGT GAC GCG GAT GCT GAC TGT ATG GAC GGC Ile Pro Leu Arg Trp Pro Cys Asp Ala Asp Ala Asp Cys Met Asp Gly 3630 3635 3640	11367
AGT GAC GAG GAA GCC TGT GGC ACT GGG GTG AGG ACC TGC CCA TTG GAT Ser Asp Glu Glu Ala Cys Gly Thr Gly Val Arg Thr Cys Pro Leu Asp 3645 3650 3655	11415

FIG.6A-21

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GAG TTT CAA TGT AAC AAC ACC TTG TGC AAG CCG CTG GCC TGG AAG TGT Glu Phe Gln Cys Asn Asn Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys 3660 3665 3670	11463
GAT GGA GAG GAC GAC TGT GGG GAC AAC TCA GAT GAG AAC CCC GAG GAA Asp Gly Glu Asp Asp Cys Gly Asp Asn Ser Asp Glu Asn Pro Glu Glu 3675 3680 3685 3690	11511
TGC GCC CGG TTC ATC TGC CCT CCC AAC CGG CCT TTC CGC TGC AAG AAT Cys Ala Arg Phe Ile Cys Pro Pro Asn Arg Pro Phe Arg Cys Lys Asn 3695 3700 3705	11559
GAC CGA GTC TGC CTG TGG ATT GGG CGC CAG TGT GAT GGC GTG GAC AAC Asp Arg Val Cys Leu Trp Ile Gly Arg Gln Cys Asp Gly Val Asp Asn 3710 3715 3720	11607
TGT GGA GAT GGG ACT GAC GAG GAG GAC TGT GAG CCC CCC ACG GCC CAG Cys Gly Asp Gly Thr Asp Glu Glu Asp Cys Glu Pro Pro Thr Ala Gln 3725 3730 3735	11655
AAC CCC CAC TGC AAA GAC AAG AAG GAG TTC CTG TGC CGA AAC CAG CGC Asn Pro His Cys Lys Asp Lys Lys Glu Phe Leu Cys Arg Asn Gln Arg 3740 3745 3750	11703
TGT CTA TCA TCC TCC CTG CGC TGT AAC ATG TTC GAT GAC TGC GGC GAT Cys Leu Ser Ser Ser Leu Arg Cys Asn Met Phe Asp Asp Cys Gly Asp 3755 3760 3765 3770	11751
GGC TCC GAT GAA GAA GAT TGC AGC ATC GAC CCC AAG CTG ACC AGC TGT Gly Ser Asp Glu Glu Asp Cys Ser Ile Asp Pro Lys Leu Thr Ser Cys 3775 3780 3785	11799
GCC ACC AAT GCC AGC ATG TGT GGG GAC GAA GCT CGT TGT GTG CGC ACT Ala Thr Asn Ala Ser Met Cys Gly Asp Glu Ala Arg Cys Val Arg Thr 3790 3795 3800	11847
GAG AAA GCT GCC TAC TGT GCC TGC CGC TCG GGC TTC CAT ACT GTG CCG Glu Lys Ala Ala Tyr Cys Ala Cys Arg Ser Gly Phe His Thr Val Pro 3805 3810 3815	11895
GGC CAG CCC GGA TGC CAG GAC ATC AAC GAG TGC CTG CGC TTT GGT ACC Gly Gln Pro Gly Cys Gln Asp Ile Asn Glu Cys Leu Arg Phe Gly Thr 3820 3825 3830	11943

FIG.6A-22

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TGC TCT CAG CTC TGG AAC AAA CCC AAG GGA GGC CAC CTC TGC AGC TGT Cys Ser Gln Leu Trp Asn Lys Pro Lys Gly Gly His Leu Cys Ser Cys 3835 3840 3845 3850	11991
GCC CGC AAC TTC ATG AAG ACA CAC AAC ACC TGC AAA GCT GAA GGC TCC Ala Arg Asn Phe Met Lys Thr His Asn Thr Cys Lys Ala Glu Gly Ser 3855 3860 3865	12039
GAG TAC CAG GTG CTA TAC ATC GCG GAT GAC AAC GAG ATC CGC AGC TTG Glu Tyr Gln Val Leu Tyr Ile Ala Asp Asp Asn Glu Ile Arg Ser Leu 3870 3875 3880	12087
TTC CCG GGC CAC CCC CAC TCA GCC TAC GAG CAG ACA TTC CAG GGC GAT Phe Pro Gly His Pro His Ser Ala Tyr Glu Gln Thr Phe Gln Gly Asp 3885 3890 3895	12135
GAG AGT GTC CGC ATA GAT GCC ATG GAT GTC CAT GTC AAG GCC GGC CGT Glu Ser Val Arg Ile Asp Ala Met Asp Val His Val Lys Ala Gly Arg 3900 3905 3910	12183
GTC TAC TGG ACT AAC TGG CAC ACG GGC ACA ATC TCC TAC AGG AGC CTG Val Tyr Trp Thr Asn Trp His Thr Gly Thr Ile Ser Tyr Arg Ser Leu 3915 3920 3925 3930	12231
CCC CCT GCC GCC CCT CCT ACC ACT TCC AAC CGC CAC CGG AGG CAG ATC Pro Pro Ala Ala Pro Pro Thr Thr Ser Asn Arg His Arg Arg Gln Ile 3935 3940 3945	12279
GAC CGG GGT GTC ACC CAC CTC AAT ATT TCA GGG CTG AAG ATG CCG AGG Asp Arg Gly Val Thr His Leu Asn Ile Ser Gly Leu Lys Met Pro Arg 3950 3955 3960	12327
GGT ATC GCT ATC GAC TGG GTG GCC GGG AAT GTG TAC TGG ACC GAT TCC Gly Ile Ala Ile Asp Trp Val Ala Gly Asn Val Tyr Trp Thr Asp Ser 3965 3970 3975	12375
GGC CGA GAC GTG ATT GAG GTG GCG CAA ATG AAG GGC GAG AAC CGC AAG Gly Arg Asp Val Ile Glu Val Ala Gln Met Lys Gly Glu Asn Arg Lys 3980 3985 3990	12423
ACG CTC ATC TCG GGC ATG ATT GAT GAG CCC CAT GCC ATC GTG GTG GAC Thr Leu Ile Ser Gly Met Ile Asp Glu Pro His Ala Ile Val Val Asp 3995 4000 4005 4010	12471

FIG.6A-23

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CCT CTG AGG GGC ACC ATG TAC TGG TCA GAC TGG GGG AAC CAC CCC AAG 12519
Pro Leu Arg Gly Thr Met Tyr Trp Ser Asp Trp Gly Asn His Pro Lys
4015 4020 4025

ATT GAA ACA GCA GCG ATG GAT GGC ACC CTT CGG GAG ACT CTC GTG CAA 12567
Ile Glu Thr Ala Ala Met Asp Gly Thr Leu Arg Glu Thr Leu Val Gln
4030 4035 4040

GAC AAC ATT CAG TGG CCT ACA GGG CTG GCT GTG GAC TAT CAC AAT GAA 12615
Asp Asn Ile Gln Trp Pro Thr Gly Leu Ala Val Asp Tyr His Asn Glu
4045 4050 4055

CGG CTC TAC TGG GCA GAT GCC AAG CTT TCG GTC ATC GGC AGC ATC CGG 12663
Arg Leu Tyr Trp Ala Asp Ala Lys Leu Ser Val Ile Gly Ser Ile Arg
4060 4065 4070

CTC AAC GGC ACT GAC CCC ATT GTG GCT GCT GAC AGC AAA CGA GGC CTA 12711
Leu Asn Gly Thr Asp Pro Ile Val Ala Ala Asp Ser Lys Arg Gly Leu
4075 4080 4085 4090

AGT CAC CCC TTC AGC ATC GAT GTG TTT GAA GAC TAC ATC TAC GGA GTC 12759
Ser His Pro Phe Ser Ile Asp Val Phe Glu Asp Tyr Ile Tyr Gly Val
4095 4100 4105

ACT TAC ATC AAT AAT CGT GTC TTC AAG ATC CAC AAG TTT GGA CAC AGC 12807
Thr Tyr Ile Asn Asn Arg Val Phe Lys Ile His Lys Phe Gly His Ser
4110 4115 4120

CCC TTG TAC AAC CTA ACT GGG GGC CTG AGC CAT GCC TCT GAT GTA GTC 12855
Pro Leu Tyr Asn Leu Thr Gly Gly Leu Ser His Ala Ser Asp Val Val
4125 4130 4135

CTT TAC CAT CAA CAC AAG CAG CCT GAA GTG ACC AAC CCC TGT GAC CGC 12903
Leu Tyr His Gln His Lys Gln Pro Glu Val Thr Asn Pro Cys Asp Arg
4140 4145 4150

AAG AAA TGC GAA TGG CTG TGT CTG CTG AGC CCC AGC GGG CCT GTC TGC 12951
Lys Lys Cys Glu Trp Leu Cys Leu Leu Ser Pro Ser Gly Pro Val Cys
4155 4160 4165 4170

ACC TGT CCC AAT GGA AAG AGG CTG GAT AAT GGC ACC TGT GTG CCT GTG 12999
Thr Cys Pro Asn Gly Lys Arg Leu Asp Asn Gly Thr Cys Val Pro Val
4175 4180 4185

FIG.6A-24

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CCC TCT CCA ACA CCC CCT CCA GAT GCC CCT AGG CCT GGA ACC TGC ACT 13047
Pro Ser Pro Thr Pro Pro Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr
4190 4195 4200

CTG CAG TGC TTC AAT GGT GGT AGT TGT TTC CTC AAC GCT CGG AGG CAG 13095
Leu Gln Cys Phe Asn Gly Gly Ser Cys Phe Leu Asn Ala Arg Arg Gln
4205 4210 4215

CCC AAG TGC CGT TGC CAG CCC CGT TAC ACA GGC GAT AAG TGT GAG CTG 13143
Pro Lys Cys Arg Cys Gln Pro Arg Tyr Thr Gly Asp Lys Cys Glu Leu
4220 4225 4230

GAT CAG TGC TGG GAA TAC TGT CAC AAC GGA GGC ACC TGT GCG GCT TCC 13191
Asp Gln Cys Trp Glu Tyr Cys His Asn Gly Gly Thr Cys Ala Ala Ser
4235 4240 4245 4250

CCA TCT GGC ATG CCC ACG TGC CGC TGT CCC ACT GGC TTC ACG GGC CCC 13239
Pro Ser Gly Met Pro Thr Cys Arg Cys Pro Thr Gly Phe Thr Gly Pro
4255 4260 4265

AAA TGC ACC GCA CAG GTG TGT GCA GGC TAC TGC TCT AAC AAC AGC ACC 13287
Lys Cys Thr Ala Gln Val Cys Ala Gly Tyr Cys Ser Asn Asn Ser Thr
4270 4275 4280

TGC ACC GTC AAC CAG GGC AAC CAG CCC CAG TGC CGA TGT CTA CCT GGC 13335
Cys Thr Val Asn Gln Gly Asn Gln Pro Gln Cys Arg Cys Leu Pro Gly
4285 4290 4295

TTC CTG GGC GAC CGT TGC CAG TAC CGG CAG TGC TCT GGC TTC TGT GAG 13383
Phe Leu Gly Asp Arg Cys Gln Tyr Arg Gln Cys Ser Gly Phe Cys Glu
4300 4305 4310

AAC TTT GGC ACC TGT CAG ATG GCT GCT GAT GGC TCC CGA CAA TGT CGC 13431
Asn Phe Gly Thr Cys Gln Met Ala Ala Asp Gly Ser Arg Gln Cys Arg
4315 4320 4325 4330

TGC ACC GTC TAC TTT GAG GGA CCA AGG TGT GAG GTG AAC AAG TGT AGT 13479
Cys Thr Val Tyr Phe Glu Gly Pro Arg Cys Glu Val Asn Lys Cys Ser
4335 4340 4345

CGC TGT CTC CAA GGC GCC TGT GTG GTC AAT AAG CAG ACC GGA GAT GTC 13527
Arg Cys Leu Gln Gly Ala Cys Val Val Asn Lys Gln Thr Gly Asp Val
4350 4355 4360

FIG.6A-25

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ACA TGC AAC TGC ACT GAT GGC CGG GTA GCC CCC AGT TGT CTC ACC TGC	13575
Thr Cys Asn Cys Thr Asp Gly Arg Val Ala Pro Ser Cys Leu Thr Cys	
4365 4370 4375	
ATC GAT CAC TGT AGC AAT GGT GGC TCC TGC ACC ATG AAC AGC AAG ATG	13623
Ile Asp His Cys Ser Asn Gly Gly Ser Cys Thr Met Asn Ser Lys Met	
4380 4385 4390	
ATG CCT GAG TGC CAG TGC CCG CCC CAT ATG ACA GGA CCC CGG TGC CAG	13671
Met Pro Glu Cys Gln Cys Pro Pro His Met Thr Gly Pro Arg Cys Gln	
4395 4400 4405 4410	
GAG CAG GTT GTT AGT CAG CAA CAG CCT GGG CAT ATG GCC TCC ATC CTG	13719
Glu Gln Val Val Ser Gln Gln Gln Pro Gly His Met Ala Ser Ile Leu	
4415 4420 4425	
ATC CCT CTG CTG CTG CTT CTC CTG CTG CTT CTG GTG GCT GGC GTG GTG	13767
Ile Pro Leu Leu Leu Leu Leu Leu Leu Leu Leu Val Ala Gly Val Val	
4430 4435 4440	
TTC TGG TAT AAG CGG CGA GTC CGA GGG GCT AAG GGC TTC CAG CAC CAG	13815
Phe Trp Tyr Lys Arg Arg Val Arg Gly Ala Lys Gly Phe Gln His Gln	
4445 4450 4455	
CGG ATG ACC AAT GGG GCC ATG AAT GTG GAA ATT GGA AAC CCT ACC TAC	13863
Arg Met Thr Asn Gly Ala Met Asn Val Glu Ile Gly Asn Pro Thr Tyr	
4460 4465 4470	
AAG ATG TAT GAA GGT GGA GAG CCC GAT GAT GTC GGG GGC CTA CTG GAT	13911
Lys Met Tyr Glu Gly Gly Glu Pro Asp Asp Val Gly Gly Leu Leu Asp	
4475 4480 4485 4490	
GCT GAT TTT GCC CTT GAC CCT GAC AAG CCT ACC AAC TTC ACC AAC CCA	13959
Ala Asp Phe Ala Leu Asp Pro Asp Lys Pro Thr Asn Phe Thr Asn Pro	
4495 4500 4505	
GTG TAT GCC ACG CTC TAC ATG GGG GGC CAC GGC AGC CGC CAT TCC CTG	14007
Val Tyr Ala Thr Leu Tyr Met Gly Gly His Gly Ser Arg His Ser Leu	
4510 4515 4520	
GCC AGC ACG GAC GAG AAG CGA GAA CTG CTG GGC CGG GGA CCT GAA GAC	14055
Ala Ser Thr Asp Glu Lys Arg Glu Leu Leu Gly Arg Gly Pro Glu Asp	
4525 4530 4535	

FIG.6A-26

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GAG ATA GGA GAT CCC TTG GCA TAGGGCCCTG CCCCACGGA TGTCCCCAGA AAGC 14110
CCCCTGCCAC ATGAGTCTTT CAATGAACCC CCTCCCCAGC CGGCCCTTCT CCGGCCCTGC 14170
Glu Ile Gly Asp Pro Leu Ala
4540 4545

CGGGTGTACA AATGTAAAAA TGAAGGAATT ACTTTTTATA TGTGAGCGAG CAAGCGAGCA 14230

AGCACAGTAT TATCTCTTTG CATTTCTTC CTGCCTGCTC CTCAGTATCC CCCCATGCT 14290
GCCTTGAGGG GCGGGGAGG GCTTTGTGGC TCAAAGGTAT GAAGGAGTCC ACATGTTCCC 14350
TACCGAGCAT ACCCCTGGAA GCCTGGCGGC ACGGCCTCCC CACCACGCCT GTGCAAGACA 14410
CTCAACGGGG CTCCGTGTCC CAGCTTTCCT TTCCTTGGCT CTCTGGGGTT AGTTCAGGGG 14470
AGGTGGAGTC CTCTGCTGAC CCTGTCTGGA AGATTGGCT CTAGCTGAGG AAGGAGTCTT 14530
TTAGTTGAGG GAAGTCACCC CAAACCCAG CTCCCACTTT CAGGGGCACC TCTCAGATGG 14590
CCATGCTCAG TATCCCTTCC AGACAGGCC TCCCCTCTCT AGCGCCCCCT CTGTGGCTCC 14650
TAGGGCTGAA CACATTCTTT GGTAAGTGC CCCCAGCCT CCCATCCCC TGAGGGCCAG 14710
GAAGAGTCGG GGCACACCA GGAAGGGCAA GCGGGCAGCC CCATTTTGGG GACGTGAACG 14770
TTTTAATAAT TTTTGCTGAA TTCCTTTACA ACTAAATAAC ACAGATATTG TTATAAATAA 14830
AATTGTAAAA AAAAAAAAAA

FIG.6A-27

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Met	Leu	Thr	Pro	Pro	Leu	Leu	Leu	Leu	Val	Pro	Leu	Leu	Ser	Ala	Leu
1				5					10					15	
Val	Ser	Gly	Ala	Thr	Met	Asp	Ala	Pro	Lys	Thr	Cys	Ser	Pro	Lys	Gln
			20					25					30		
Phe	Ala	Cys	Arg	Asp	Gln	Ile	Thr	Cys	Ile	Ser	Lys	Gly	Trp	Arg	Cys
		35					40					45			
Asp	Gly	Glu	Arg	Asp	Cys	Pro	Asp	Gly	Ser	Asp	Glu	Ala	Pro	Glu	Ile
	50					55				60					
Cys	Pro	Gln	Ser	Lys	Ala	Gln	Arg	Cys	Pro	Pro	Asn	Glu	His	Ser	Cys
65					70					75					80
Leu	Gly	Thr	Glu	Leu	Cys	Val	Pro	Met	Ser	Arg	Leu	Cys	Asn	Gly	Ile
				85					90					95	
Gln	Asp	Cys	Met	Asp	Gly	Ser	Asp	Glu	Gly	Ala	His	Cys	Arg	Glu	Leu
			100					105					110		
Arg	Ala	Asn	Cys	Ser	Arg	Met	Gly	Cys	Gln	His	His	Cys	Val	Pro	Thr
		115					120						125		
Pro	Ser	Gly	Pro	Thr	Cys	Tyr	Cys	Asn	Ser	Ser	Phe	Gln	Leu	Glu	Ala
	130					135					140				
Asp	Gly	Lys	Thr	Cys	Lys	Asp	Phe	Asp	Glu	Cys	Ser	Val	Tyr	Gly	Thr
145					150					155					160
Cys	Ser	Gln	Leu	Cys	Thr	Asn	Thr	Asp	Gly	Ser	Phe	Thr	Cys	Gly	Cys
				165					170					175	
Val	Glu	Gly	Tyr	Leu	Leu	Gln	Pro	Asp	Asn	Arg	Ser	Cys	Lys	Ala	Lys
			180					185					190		
Asn	Glu	Pro	Val	Asp	Arg	Pro	Pro	Val	Leu	Leu	Ile	Ala	Asn	Ser	Gln
		195					200					205			
Asn	Ile	Leu	Ala	Thr	Tyr	Leu	Ser	Gly	Ala	Gln	Val	Ser	Thr	Ile	Thr
	210					215					220				
Pro	Thr	Ser	Thr	Arg	Gln	Thr	Thr	Ala	Met	Asp	Phe	Ser	Tyr	Ala	Asn
225					230					235					240
Glu	Thr	Val	Cys	Trp	Val	His	Val	Gly	Asp	Ser	Ala	Ala	Gln	Thr	Gln
				245					250					255	
Leu	Lys	Cys	Ala	Arg	Met	Pro	Gly	Leu	Lys	Gly	Phe	Val	Asp	Glu	His
			260					265					270		
Thr	Ile	Asn	Ile	Ser	Leu	Ser	Leu	His	His	Val	Glu	Gln	Met	Ala	Ile
		275					280						285		
Asp	Trp	Leu	Thr	Gly	Asn	Phe	Tyr	Phe	Val	Asp	Asp	Ile	Asp	Asp	Arg
	290					295					300				
Ile	Phe	Val	Cys	Asn	Arg	Asn	Gly	Asp	Thr	Cys	Val	Thr	Leu	Leu	Asp
305					310					315					320

FIG.6B-1

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Leu	Glu	Leu	Tyr	Asn	Pro	Lys	Gly	Ile	Ala	Leu	Asp	Pro	Ala	Met	Gly	
				325					330					335		
Lys	Val	Phe	Phe	Thr	Asp	Tyr	Gly	Gln	Ile	Pro	Lys	Val	Glu	Arg	Cys	
			340				345						350			
Asp	Met	Asp	Gly	Gln	Asn	Arg	Thr	Lys	Leu	Val	Asp	Ser	Lys	Ile	Val	
		355					360					365				
Phe	Pro	His	Gly	Ile	Thr	Leu	Asp	Leu	Val	Ser	Arg	Leu	Val	Tyr	Trp	
	370					375					380					
Ala	Asp	Ala	Tyr	Leu	Asp	Tyr	Ile	Glu	Val	Val	Asp	Tyr	Glu	Gly	Lys	
385					390					395					400	
Gly	Arg	Gln	Thr	Ile	Ile	Gln	Gly	Ile	Leu	Ile	Glu	His	Leu	Tyr	Gly	
			405						410					415		
Leu	Thr	Val	Phe	Glu	Asn	Tyr	Leu	Tyr	Ala	Thr	Asn	Ser	Asp	Asn	Ala	
			420					425					430			
Asn	Thr	Gln	Gln	Lys	Thr	Ser	Val	Ile	Arg	Val	Asn	Arg	Phe	Asn	Ser	
		435					440					445				
Thr	Glu	Tyr	Gln	Val	Val	Thr	Arg	Val	Asp	Lys	Gly	Gly	Ala	Leu	His	
	450					455					460					
Ile	Tyr	His	Gln	Arg	Arg	Gln	Pro	Arg	Val	Arg	Ser	His	Ala	Cys	Glu	
465				470						475					480	
Asn	Asp	Gln	Tyr	Gly	Lys	Pro	Gly	Gly	Cys	Ser	Asp	Ile	Cys	Leu	Leu	
			485					490					495			
Ala	Asn	Ser	His	Lys	Ala	Arg	Thr	Cys	Arg	Cys	Arg	Ser	Gly	Phe	Ser	
			500					505					510			
Leu	Gly	Ser	Asp	Gly	Lys	Ser	Cys	Lys	Lys	Pro	Glu	His	Glu	Leu	Phe	
		515					520					525				
Leu	Val	Tyr	Gly	Lys	Gly	Arg	Pro	Gly	Ile	Ile	Arg	Gly	Met	Asp	Met	
	530					535					540					
Gly	Ala	Lys	Val	Pro	Asp	Glu	His	Met	Ile	Pro	Ile	Glu	Asn	Leu	Met	
545				550						555					560	
Asn	Pro	Arg	Ala	Leu	Asp	Phe	His	Ala	Glu	Thr	Gly	Phe	Ile	Tyr	Phe	
				565					570					575		
Ala	Asp	Thr	Thr	Ser	Tyr	Leu	Ile	Gly	Arg	Gln	Lys	Ile	Asp	Gly	Thr	
			580					585					590			
Glu	Arg	Glu	Thr	Ile	Leu	Lys	Asp	Gly	Ile	His	Asn	Val	Glu	Gly	Val	
		595					600					605				
Ala	Val	Asp	Trp	Met	Gly	Asp	Asn	Leu	Tyr	Trp	Thr	Asp	Asp	Gly	Pro	
	610					615					620					
Lys	Lys	Thr	Ile	Ser	Val	Ala	Arg	Leu	Glu	Lys	Ala	Ala	Gln	Thr	Arg	
625				630						635					640	
Lys	Thr	Leu	Ile	Glu	Gly	Lys	Met	Thr	His	Pro	Arg	Ala	Ile	Val	Val	
			645						650					655		

FIG.6B-2

[illegible]

FIG. 6B-3

[illegible]

FIG. 6B-4

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Asp Asn Gly Ala Leu Thr Ser Phe Glu Val Val Ile Gln Tyr Gly Leu
 1330 1335 1340
 Ala Thr Pro Glu Gly Leu Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr
 345 1350 1355 1360
 Trp Val Glu Ser Asn Leu Asp Gln Ile Glu Val Ala Lys Leu Asp Gly
 1365 1370 1375
 Thr Leu Arg Thr Thr Leu Leu Ala Gly Asp Ile Glu His Pro Arg Ala
 1380 1385 1390
 Ile Ala Leu Asp Pro Arg Asp Gly Ile Leu Phe Trp Thr Asp Trp Asp
 1395 1400 1405
 Ala Ser Leu Pro Arg Ile Glu Ala Ala Ser Met Ser Gly Ala Gly Arg
 1410 1415 1420
 Arg Thr Ile His Arg Glu Thr Gly Ser Gly Gly Cys Ala Asn Gly Leu
 425 1430 1435 1440
 Thr Val Asp Tyr Leu Glu Lys Arg Ile Leu Trp Ile Asp Ala Arg Ser
 1445 1450 1455
 Asp Ala Ile Tyr Ser Ala Arg Tyr Asp Gly Ser Gly His Met Glu Val
 1460 1465 1470
 Leu Arg Gly His Glu Phe Leu Ser His Pro Phe Ala Val Thr Leu Tyr
 1475 1480 1485
 Gly Gly Glu Val Tyr Trp Thr Asp Trp Arg Thr Asn Thr Leu Ala Lys
 1490 1495 1500
 Ala Asn Lys Trp Thr Gly His Asn Val Thr Val Val Gln Arg Thr Asn
 505 1510 1515 1520
 Thr Gln Pro Phe Asp Leu Gln Val Tyr His Pro Ser Arg Gln Pro Met
 1525 1530 1535
 Ala Pro Asn Pro Cys Glu Ala Asn Gly Gly Arg Gly Pro Cys Ser His
 1540 1545 1550
 Leu Cys Leu Ile Asn Tyr Asn Arg Thr Val Ser Trp Ala Cys Pro His
 1555 1560 1565
 Leu Met Lys Leu His Lys Asp Asn Thr Thr Cys Tyr Glu Phe Lys Lys
 1570 1575 1580
 Phe Leu Leu Tyr Ala Arg Gln Met Glu Ile Arg Gly Val Asp Leu Asp
 585 1590 1595 1600
 Ala Pro Tyr Tyr Asn Tyr Ile Ile Ser Phe Thr Val Pro Asp Ile Asp
 1605 1610 1615
 Asn Val Thr Val Leu Asp Tyr Asp Ala Arg Glu Gln Arg Val Tyr Trp
 1620 1625 1630
 Ser Asp Val Arg Thr Gln Ala Ile Lys Arg Ala Phe Ile Asn Gly Thr
 1635 1640 1645
 Gly Val Glu Thr Val Val Ser Ala Asp Leu Pro Asn Ala His Gly Leu
 1650 1655 1660

FIG.6B-5

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Ala Val Asp Trp Val Ser Arg Asn Leu Phe Trp Thr Ser Tyr Asp Thr
 665 1670 1675 1680
 Asn Lys Lys Gln Ile Asn Val Ala Arg Leu Asp Gly Ser Phe Lys Asn
 1685 1690 1695
 Ala Val Val Gln Gly Leu Glu Gln Pro His Gly Leu Val Val His Pro
 1700 1705 1710
 Leu Arg Gly Lys Leu Tyr Trp Thr Asp Gly Asp Asn Ile Ser Met Ala
 1715 1720 1725
 Asn Met Asp Gly Ser Asn His Thr Leu Leu Phe Ser Gly Gln Lys Gly
 1730 1735 1740
 Pro Val Gly Leu Ala Ile Asp Phe Pro Glu Ser Lys Leu Tyr Trp Ile
 745 1750 1755 1760
 Ser Ser Gly Asn His Thr Ile Asn Arg Cys Asn Leu Asp Gly Ser Glu
 1765 1770 1775
 Leu Glu Val Ile Asp Thr Met Arg Ser Gln Leu Gly Lys Ala Thr Ala
 1780 1785 1790
 Leu Ala Ile Met Gly Asp Lys Leu Trp Trp Ala Asp Gln Val Ser Glu
 1795 1800 1805
 Lys Met Gly Thr Cys Asn Lys Ala Asp Gly Ser Gly Ser Val Val Leu
 1810 1815 1820
 Arg Asn Ser Thr Thr Leu Val Met His Met Lys Val Tyr Asp Glu Ser
 825 1830 1835 1840
 Ile Gln Leu Glu His Glu Gly Thr Asn Pro Cys Ser Val Asn Asn Gly
 1845 1850 1855
 Asp Cys Ser Gln Leu Cys Leu Pro Thr Ser Glu Thr Thr Arg Ser Cys
 1860 1865 1870
 Met Cys Thr Ala Gly Tyr Ser Leu Arg Ser Gly Gln Gln Ala Cys Glu
 1875 1880 1885
 Gly Val Gly Ser Phe Leu Leu Tyr Ser Val His Glu Gly Ile Arg Gly
 1890 1895 1900

 Ile Pro Leu Asp Pro Asn Asp Lys Ser Asp Ala Leu Val Pro Val Ser
 905 1910 1915 1920
 Gly Thr Ser Leu Ala Val Gly Ile Asp Phe His Ala Glu Asn Asp Thr
 1925 1930 1935
 Ile Tyr Trp Val Asp Met Gly Leu Ser Thr Ile Ser Arg Ala Lys Arg
 1940 1945 1950
 Asp Gln Thr Trp Arg Glu Asp Val Val Thr Asn Gly Ile Gly Arg Val
 1955 1960 1965
 Glu Gly Ile Ala Val Asp Trp Ile Ala Gly Asn Ile Tyr Trp Thr Asp
 1970 1975 1980
 Gln Gly Phe Asp Val Ile Glu Val Ala Arg Leu Asn Gly Ser Phe Arg
 985 1990 1995 2000

FIG.6B-6

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Tyr	Val	Val	Ile	Ser	Gln	Gly	Leu	Asp	Lys	Pro	Arg	Ala	Ile	Thr	Val
				2005					2010					2015	
His	Pro	Glu	Lys	Gly	Tyr	Leu	Phe	Trp	Thr	Glu	Trp	Gly	His	Tyr	Pro
			2020					2025					2030		
Arg	Ile	Glu	Arg	Ser	Arg	Leu	Asp	Gly	Thr	Glu	Arg	Val	Val	Leu	Val
		2035				2040						2045			
Asn	Val	Ser	Ile	Ser	Trp	Pro	Asn	Gly	Ile	Ser	Val	Asp	Tyr	Gln	Gly
	2050					2055					2060				
Gly	Lys	Leu	Tyr	Trp	Cys	Asp	Ala	Arg	Met	Asp	Lys	Ile	Glu	Arg	Ile
065				2070						2075				2080	
Asp	Leu	Glu	Thr	Gly	Glu	Asn	Arg	Glu	Val	Val	Leu	Ser	Ser	Asn	Asn
			2085					2090						2095	
Met	Asp	Met	Phe	Ser	Val	Ser	Val	Phe	Glu	Asp	Phe	Ile	Tyr	Trp	Ser
			2100					2105					2110		
Asp	Arg	Thr	His	Ala	Asn	Gly	Ser	Ile	Lys	Arg	Gly	Cys	Lys	Asp	Asn
	2115					2120						2125			
Ala	Thr	Asp	Ser	Val	Pro	Leu	Arg	Thr	Gly	Ile	Gly	Val	Gln	Leu	Lys
	2130					2135						2140			
Asp	Ile	Lys	Val	Phe	Asn	Arg	Asp	Arg	Gln	Lys	Gly	Thr	Asn	Val	Cys
145				2150						2155				2160	
Ala	Val	Ala	Asn	Gly	Gly	Cys	Gln	Gln	Leu	Cys	Leu	Tyr	Arg	Gly	Gly
			2165					2170						2175	
Gly	Gln	Arg	Ala	Cys	Ala	Cys	Ala	His	Gly	Met	Leu	Ala	Glu	Asp	Gly
		2180						2185					2190		
Ala	Ser	Cys	Arg	Glu	Tyr	Ala	Gly	Tyr	Leu	Leu	Tyr	Ser	Glu	Arg	Thr
	2195							2200					2205		
Ile	Leu	Lys	Ser	Ile	His	Leu	Ser	Asp	Glu	Arg	Asn	Leu	Asn	Ala	Pro
	2210					2215					2220				
Val	Gln	Pro	Phe	Glu	Asp	Pro	Glu	His	Met	Lys	Asn	Val	Ile	Ala	Leu
225				2230						2235				2240	
Ala	Phe	Asp	Tyr	Arg	Ala	Gly	Thr	Ser	Pro	Gly	Thr	Pro	Asn	Arg	Ile
		2245						2250					2255		
Phe	Phe	Ser	Asp	Ile	His	Phe	Gly	Asn	Ile	Gln	Gln	Ile	Asn	Asp	Asp
		2260						2265					2270		
Gly	Ser	Gly	Arg	Thr	Thr	Ile	Val	Glu	Asn	Val	Gly	Ser	Val	Glu	Gly
	2275					2280							2285		
Leu	Ala	Tyr	His	Arg	Gly	Trp	Asp	Thr	Leu	Tyr	Trp	Thr	Ser	Tyr	Thr
	2290					2295					2300				
Thr	Ser	Thr	Ile	Thr	Arg	His	Thr	Val	Asp	Gln	Thr	Arg	Pro	Gly	Ala
305				2310						2315				2320	
Phe	Glu	Arg	Glu	Thr	Val	Ile	Thr	Met	Ser	Gly	Asp	Asp	His	Pro	Arg
			2325					2330						2335	

FIG.6B-7

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Ala Phe Val Leu Asp Glu Cys Gln Asn Leu Met Phe Trp Thr Asn Trp		
2340	2345	2350
Asn Glu Leu His Pro Ser Ile Met Arg Ala Ala Leu Ser Gly Ala Asn		
2355	2360	2365
Val Leu Thr Leu Ile Glu Lys Asp Ile Arg Thr Pro Asn Gly Leu Ala		
2370	2375	2380
Ile Asp His Arg Ala Glu Lys Leu Tyr Phe Ser Asp Ala Thr Leu Asp		
385	2390	2395
Lys Ile Glu Arg Cys Glu Tyr Asp Gly Ser His Arg Tyr Val Ile Leu		
2405	2410	2415
Lys Ser Glu Pro Val His Pro Phe Gly Leu Ala Val Tyr Gly Glu His		
2420	2425	2430
Ile Phe Trp Thr Asp Trp Val Arg Arg Ala Val Gln Arg Ala Asn Lys		
2435	2440	2445
Tyr Val Gly Ser Asp Met Lys Leu Leu Arg Val Asp Ile Pro Gln Gln		
2450	2455	2460
Pro Met Gly Ile Ile Ala Val Ala Asn Asp Thr Asn Ser Cys Glu Leu		
465	2470	2475
Ser Pro Cys Arg Ile Asn Asn Gly Gly Cys Gln Asp Leu Cys Leu Leu		
2485	2490	2495
Thr His Gln Gly His Val Asn Cys Ser Cys Arg Gly Gly Arg Ile Leu		
2500	2505	2510
Gln Glu Asp Phe Thr Cys Arg Ala Val Asn Ser Ser Cys Arg Ala Gln		
2515	2520	2525
Asp Glu Phe Glu Cys Ala Asn Gly Glu Cys Ile Ser Phe Ser Leu Thr		
2530	2535	2540
Cys Asp Gly Val Ser His Cys Lys Asp Lys Ser Asp Glu Lys Pro Ser		
545	2550	2555
Tyr Cys Asn Ser Arg Arg Cys Lys Lys Thr Phe Arg Gln Cys Asn Asn		
2565	2570	2575
Gly Arg Cys Val Ser Asn Met Leu Trp Cys Asn Gly Val Asp Tyr Cys		
2580	2585	2590
Gly Asp Gly Ser Asp Glu Ile Pro Cys Asn Lys Thr Ala Cys Gly Val		
2595	2600	2605
Gly Glu Phe Arg Cys Arg Asp Gly Ser Cys Ile Gly Asn Ser Ser Arg		
2610	2615	2620
Cys Asn Gln Phe Val Asp Cys Glu Asp Ala Ser Asp Glu Met Asn Cys		
625	2630	2635
Ser Ala Thr Asp Cys Ser Ser Tyr Phe Arg Leu Gly Val Lys Gly Val		
2645	2650	2655
Leu Phe Gln Pro Cys Glu Arg Thr Ser Leu Cys Tyr Ala Pro Ser Trp		
2660	2665	2670

FIG.6B-8

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Val	Cys	Asp	Gly	Ala	Asn	Asp	Cys	Gly	Asp	Tyr	Ser	Asp	Glu	Arg	Asp			
	2675						2680						2685					
Cys	Pro	Gly	Val	Lys	Arg	Pro	Arg	Cys	Pro	Leu	Asn	Tyr	Phe	Ala	Cys			
	2690						2695					2700						
Pro	Ser	Gly	Arg	Cys	Ile	Pro	Met	Ser	Trp	Thr	Cys	Asp	Lys	Glu	Asp			
705					2710					2715				2720				
Asp	Cys	Glu	Asn	Gly	Glu	Asp	Glu	Thr	His	Cys	Asn	Lys	Phe	Cys	Ser			
			2725						2730					2735				
Glu	Ala	Gln	Phe	Glu	Cys	Gln	Asn	His	Arg	Cys	Ile	Ser	Lys	Gln	Trp			
		2740						2745					2750					
Leu	Cys	Asp	Gly	Ser	Asp	Asp	Cys	Gly	Asp	Gly	Ser	Asp	Glu	Ala	Ala			
	2755						2760						2765					
His	Cys	Glu	Gly	Lys	Thr	Cys	Gly	Pro	Ser	Ser	Phe	Ser	Cys	Pro	Gly			
	2770					2775					2780							
Thr	His	Val	Cys	Val	Pro	Glu	Arg	Trp	Leu	Cys	Asp	Gly	Asp	Lys	Asp			
785					2790					2795				2800				
Cys	Thr	Asp	Gly	Ala	Asp	Glu	Ser	Val	Thr	Ala	Gly	Cys	Leu	Tyr	Asn			
			2805					2810					2815					
Ser	Thr	Cys	Asp	Asp	Arg	Glu	Phe	Met	Cys	Gln	Asn	Arg	Leu	Cys	Ile			
		2820						2825					2830					
Pro	Lys	His	Phe	Val	Cys	Asp	His	Asp	Arg	Asp	Cys	Ala	Asp	Gly	Ser			
	2835						2840					2845						
Asp	Glu	Ser	Pro	Glu	Cys	Glu	Tyr	Pro	Thr	Cys	Gly	Pro	Asn	Glu	Phe			
	2850					2855					2860							
Arg	Cys	Ala	Asn	Gly	Arg	Cys	Leu	Ser	Ser	Arg	Gln	Trp	Glu	Cys	Asp			
865					2870					2875				2880				
Gly	Glu	Asn	Asp	Cys	His	Asp	His	Ser	Asp	Glu	Ala	Pro	Lys	Asn	Pro			
			2885					2890					2895					
His	Cys	Thr	Ser	Pro	Glu	His	Lys	Cys	Asn	Ala	Ser	Ser	Gln	Phe	Leu			
		2900					2905						2910					
Cys	Ser	Ser	Gly	Arg	Cys	Val	Ala	Glu	Ala	Leu	Leu	Cys	Asn	Gly	Gln			
	2915					2920						2925						
Asp	Asp	Cys	Gly	Asp	Gly	Ser	Asp	Glu	Arg	Gly	Cys	His	Val	Asn	Glu			
	2930					2935					2940							
Cys	Leu	Ser	Arg	Lys	Leu	Ser	Gly	Cys	Ser	Gln	Asp	Cys	Glu	Asp	Leu			
945					2950					2955				2960				
Lys	Ile	Gly	Phe	Lys	Cys	Arg	Cys	Arg	Pro	Gly	Phe	Arg	Leu	Lys	Asp			
			2965					2970					2975					
Asp	Gly	Arg	Thr	Cys	Ala	Asp	Leu	Asp	Glu	Cys	Ser	Thr	Thr	Phe	Pro			
		2980					2985					2990						
Cys	Ser	Gln	Leu	Cys	Ile	Asn	Thr	His	Gly	Ser	Tyr	Lys	Cys	Leu	Cys			
	2995					3000						3005						

FIG.6B-9

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Val Glu Gly Tyr Ala Pro Arg Gly Gly Asp Pro His Ser Cys Lys Ala
 3010 3015 3020
 Val Thr Asp Glu Glu Pro Phe Leu Ile Phe Ala Asn Arg Tyr Tyr Leu
 025 3030 3035 3040
 Arg Lys Leu Asn Leu Asp Gly Ser Asn Tyr Thr Leu Leu Lys Gln Gly
 3045 3050 3055
 Leu Asn Asn Ala Val Ala Leu Ala Phe Asp Tyr Arg Glu Gln Met Ile
 3060 3065 3070
 Tyr Trp Thr Gly Val Thr Thr Gln Gly Ser Met Ile Arg Arg Met His
 3075 3080 3085
 Leu Asn Gly Ser Asn Val Gln Val Leu His Arg Thr Gly Leu Ser Asn
 3090 3095 3100
 Pro Asp Gly Leu Ala Val Asp Trp Val Gly Gly Asn Leu Tyr Trp Cys
 105 3110 3115 3120
 Asp Lys Gly Arg Asp Thr Ile Glu Val Ser Lys Leu Asn Gly Ala Tyr
 3125 3130 3135
 Arg Thr Val Leu Val Ser Ser Gly Leu Arg Glu Pro Arg Ala Leu Val
 3140 3145 3150
 Val Asp Val Gln Asn Gly Tyr Leu Tyr Trp Thr Asp Trp Gly Asp His
 3155 3160 3165
 Ser Leu Ile Gly Arg Ile Gly Met Asp Gly Ser Gly Arg Ser Ile Ile
 3170 3175 3180
 Val Asp Thr Lys Ile Thr Trp Pro Asn Gly Leu Thr Val Asp Tyr Val
 185 3190 3195 3200
 Thr Glu Arg Ile Tyr Trp Ala Asp Ala Arg Glu Asp Tyr Ile Glu Phe
 3205 3210 3215
 Ala Ser Leu Asp Gly Ser Asn Arg His Val Val Leu Ser Gln Asp Ile
 3220 3225 3230
 Pro His Ile Phe Ala Leu Thr Leu Phe Glu Asp Tyr Val Tyr Trp Thr
 3235 3240 3245

Asp Trp Glu Thr Lys Ser Ile Asn Arg Ala His Lys Thr Thr Gly Ala
 3250 3255 3260
 Asn Lys Thr Leu Leu Ile Ser Thr Leu His Arg Pro Met Asp Leu His
 265 3270 3275 3280
 Val Phe His Ala Leu Arg Gln Pro Asp Val Pro Asn His Pro Cys Lys
 3285 3290 3295
 Val Asn Asn Gly Gly Cys Ser Asn Leu Cys Leu Leu Ser Pro Gly Gly
 3300 3305 3310
 Gly His Lys Cys Ala Cys Pro Thr Asn Phe Tyr Leu Gly Gly Asp Gly
 3315 3320 3325
 Arg Thr Cys Val Ser Asn Cys Thr Ala Ser Gln Phe Val Cys Lys Asn
 3330 3335 3340

FIG.6B-10

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Asp Lys Cys Ile Pro Phe Trp Trp Lys Cys Asp Thr Glu Asp Asp Cys			
345	3350	3355	3360
Gly Asp His Ser Asp Glu Pro Pro Asp Cys Pro Glu Phe Lys Cys Arg			
	3365	3370	3375
Pro Gly Gln Phe Gln Cys Ser Thr Gly Ile Cys Thr Asn Pro Ala Phe			
	3380	3385	3390
Ile Cys Asp Gly Asp Asn Asp Cys Gln Asp Asn Ser Asp Glu Ala Asn			
	3395	3400	3405
Cys Asp Ile His Val Cys Leu Pro Ser Gln Phe Lys Cys Thr Asn Thr			
	3410	3415	3420
Asn Arg Cys Ile Pro Gly Ile Phe Arg Cys Asn Gly Gln Asp Asn Cys			
425	3430	3435	3440
Gly Asp Gly Glu Asp Glu Arg Asp Cys Pro Glu Val Thr Cys Ala Pro			
	3445	3450	3455
Asn Gln Phe Gln Cys Ser Ile Thr Lys Arg Cys Ile Pro Arg Val Trp			
	3460	3465	3470
Val Cys Asp Arg Asp Asn His Cys Val Asp Gly Ser Asp Glu Pro Ala			
	3475	3480	3485
Asn Cys Thr Gln Met Thr Cys Gly Val Asp Glu Phe Arg Cys Lys Asp			
	3490	3495	3500
Ser Gly Arg Cys Ile Pro Ala Arg Trp Lys Cys Asp Gly Glu Asp Asp			
505	3510	3515	3520
Cys Gly Asp Gly Ser Asp Glu Pro Lys Glu Glu Cys Asp Glu Arg Thr			
	3525	3530	3535
Cys Glu Pro Tyr Gln Phe Arg Cys Lys Asn Asn Arg Cys Val Pro Gly			
	3540	3545	3550
Arg Trp Gln Cys Asp Tyr Asp Asn Asp Cys Gly Asp Asn Ser Asp Glu			
	3555	3560	3565
Glu Ser Cys Thr Pro Arg Pro Cys Ser Glu Ser Glu Phe Phe Cys Ala			
	3570	3575	3580
Asn Gly Arg Cys Ile Ala Gly Arg Trp Lys Cys Asp Gly Asp His Asp			
585	3590	3595	3600
Cys Ala Asp Gly Ser Asp Glu Lys Asp Cys Thr Pro Arg Cys Asp Met			
	3605	3610	3615
Asp Gln Phe Gln Cys Lys Ser Gly His Cys Ile Pro Leu Arg Trp Pro			
	3620	3625	3630
Cys Asp Ala Asp Ala Asp Cys Met Asp Gly Ser Asp Glu Glu Ala Cys			
	3635	3640	3645
Gly Thr Gly Val Arg Thr Cys Pro Leu Asp Glu Phe Gln Cys Asn Asn			
	3650	3655	3660
Thr Leu Cys Lys Pro Leu Ala Trp Lys Cys Asp Gly Glu Asp Asp Cys			
665	3670	3675	3680

FIG.6B-11

Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

FIG. 6B-12

50/65

Tyr Trp Ser Asp Trp Gly Asn His Pro Lys Ile Glu Thr Ala Ala Met
 4020 4025 4030
 Asp Gly Thr Leu Arg Glu Thr Leu Val Gln Asp Asn Ile Gln Trp Pro
 4035 4040 4045
 Thr Gly Leu Ala Val Asp Tyr His Asn Glu Arg Leu Tyr Trp Ala Asp
 4050 4055 4060
 Ala Lys Leu Ser Val Ile Gly Ser Ile Arg Leu Asn Gly Thr Asp Pro
 065 4070 4075 4080
 Ile Val Ala Ala Asp Ser Lys Arg Gly Leu Ser His Pro Phe Ser Ile
 4085 4090 4095
 Asp Val Phe Glu Asp Tyr Ile Tyr Gly Val Thr Tyr Ile Asn Asn Arg
 4100 4105 4110
 Val Phe Lys Ile His Lys Phe Gly His Ser Pro Leu Tyr Asn Leu Thr
 4115 4120 4125
 Gly Gly Leu Ser His Ala Ser Asp Val Val Leu Tyr His Gln His Lys
 4130 4135 4140
 Gln Pro Glu Val Thr Asn Pro Cys Asp Arg Lys Lys Cys Glu Trp Leu
 145 4150 4155 4160
 Cys Leu Leu Ser Pro Ser Gly Pro Val Cys Thr Cys Pro Asn Gly Lys
 4165 4170 4175
 Arg Leu Asp Asn Gly Thr Cys Val Pro Val Pro Ser Pro Thr Pro Pro
 4180 4185 4190
 Pro Asp Ala Pro Arg Pro Gly Thr Cys Thr Leu Gln Cys Phe Asn Gly
 4195 4200 4205
 Gly Ser Cys Phe Leu Asn Ala Arg Arg Gln Pro Lys Cys Arg Cys Gln
 4210 4215 4220
 Pro Arg Tyr Thr Gly Asp Lys Cys Glu Leu Asp Gln Cys Trp Glu Tyr
 225 4230 4235 4240
 Cys His Asn Gly Gly Thr Cys Ala Ala Ser Pro Ser Gly Met Pro Thr
 4245 4250 4255
~~Cys Arg Cys Pro Thr Gly Phe Thr Gly Pro Lys Cys Thr Ala Gln Val~~
 4260 4265 4270
 Cys Ala Gly Tyr Cys Ser Asn Asn Ser Thr Cys Thr Val Asn Gln Gly
 4275 4280 4285
 Asn Gln Pro Gln Cys Arg Cys Leu Pro Gly Phe Leu Gly Asp Arg Cys
 4290 4295 4300
 Gln Tyr Arg Gln Cys Ser Gly Phe Cys Glu Asn Phe Gly Thr Cys Gln
 305 4310 4315 4320
 Met Ala Ala Asp Gly Ser Arg Gln Cys Arg Cys Thr Val Tyr Phe Glu
 4325 4330 4335
 Gly Pro Arg Cys Glu Val Asn Lys Cys Ser Arg Cys Leu Gln Gly Ala
 4340 4345 4350

FIG.6B-13

51/65

Cys Val Val Asn Lys Gln Thr Gly Asp Val Thr Cys Asn Cys Thr Asp
4355 4360 4365
Gly Arg Val Ala Pro Ser Cys Leu Thr Cys Ile Asp His Cys Ser Asn
4370 4375 4380
Gly Gly Ser Cys Thr Met Asn Ser Lys Met Met Pro Glu Cys Gln Cys
385 4390 4395 4400
Pro Pro His Met Thr Gly Pro Arg Cys Gln Glu Gln Val Val Ser Gln
4405 4410 4415
Gln Gln Pro Gly His Met Ala Ser Ile Leu Ile Pro Leu Leu Leu Leu
4420 4425 4430
Leu Leu Leu Leu Leu Val Ala Gly Val Val Phe Trp Tyr Lys Arg Arg
4435 4440 4445
Val Arg Gly Ala Lys Gly Phe Gln His Gln Arg Met Thr Asn Gly Ala
4450 4455 4460
Met Asn Val Glu Ile Gly Asn Pro Thr Tyr Lys Met Tyr Glu Gly Gly
465 4470 4475 4480
Glu Pro Asp Asp Val Gly Gly Leu Leu Asp Ala Asp Phe Ala Leu Asp
4485 4490 4495
Pro Asp Lys Pro Thr Asn Phe Thr Asn Pro Val Tyr Ala Thr Leu Tyr
4500 4505 4510
Met Gly Gly His Gly Ser Arg His Ser Leu Ala Ser Thr Asp Glu Lys
4515 4520 4525
Arg Glu Leu Leu Gly Arg Gly Pro Glu Asp Glu Ile Gly Asp Pro Leu
4530 4535 4540
Ala
545

FIG.6B-14

52/65

GCTACAATCC ATCTGGTCTC CTCCAGCTCC TTCTTTCTGC AAC ATG GGG AAG AAC	55
Met Gly Lys Asn	
1	
AAA CTC CTT CAT CCA AGT CTG GTT CTT CTC CTC TTG GTC CTC CTG CCC	103
Lys Leu Leu His Pro Ser Leu Val Leu Leu Leu Val Leu Leu Pro	
5 10 15 20	
ACA GAC GCC TCA GTC TCT GGA AAA CCG CAG TAT ATG GTT CTG GTC CCC	151
Thr Asp Ala Ser Val Ser Gly Lys Pro Gln Tyr Met Val Leu Val Pro	
25 30 35	
TCC CTG CTC CAC ACT GAG ACC ACT GAG AAG GGC TGT GTC CTT CTG AGC	199
Ser Leu Leu His Thr Glu Thr Thr Glu Lys Gly Cys Val Leu Leu Ser	
40 45 50	
TAC CTG AAT GAG ACA GTG ACT GTA AGT GCT TCC TTG GAG TCT GTC AGG	247
Tyr Leu Asn Glu Thr Val Thr Val Ser Ala Ser Leu Glu Ser Val Arg	
55 60 65	
GGA AAC AGG AGC CTC TTC ACT GAC CTG GAG GCG GAG AAT GAC GTA CTC	295
Gly Asn Arg Ser Leu Phe Thr Asp Leu Glu Ala Glu Asn Asp Val Leu	
70 75 80	
CAC TGT GTC GCC TTC GCT GTC CCA AAG TCT TCA TCC AAT GAG GAG GTA	343
His Cys Val Ala Phe Ala Val Pro Lys Ser Ser Ser Asn Glu Glu Val	
85 90 95 100	
ATG TTC CTC ACT GTC CAA GTG AAA GGA CCA ACC CAA GAA TTT AAG AAG	391
Met Phe Leu Thr Val Gln Val Lys Gly Pro Thr Gln Glu Phe Lys Lys	
105 110 115	
CGG ACC ACA GTG ATG GTT AAG AAC GAG GAC AGT CTG GTC TTT GTC CAG	439
Arg Thr Thr Val Met Val Lys Asn Glu Asp Ser Leu Val Phe Val Gln	
120 125 130	
ACA GAC AAA TCA ATC TAC AAA CCA GGG CAG ACA GTG AAA TTT CGT GTT	487
Thr Asp Lys Ser Ile Tyr Lys Pro Gly Gln Thr Val Lys Phe Arg Val	
135 140 145	
GTC TCC ATG GAT GAA AAC TTT CAC CCC CTG AAT GAG TTG ATT CCA CTA	535
Val Ser Met Asp Glu Asn Phe His Pro Leu Asn Glu Leu Ile Pro Leu	
150 155 160	

FIG.7A-1

53/65

GTA TAC ATT CAG GAT CCC AAA GGA AAT CGC ATC GCA CAA TGG CAG AGT Val Tyr Ile Gln Asp Pro Lys Gly Asn Arg Ile Ala Gln Trp Gln Ser 165 170 175 180	583
TTC CAG TTA GAG GGT GGC CTC AAG CAA TTT TCT TTT CCC CTC TCA TCA Phe Gln Leu Glu Gly Gly Leu Lys Gln Phe Ser Phe Pro Leu Ser Ser 185 190 195	631
GAG CCC TTC CAG GGC TCC TAC AAG GTG GTG GTA CAG AAG AAA TCA GGT Glu Pro Phe Gln Gly Ser Tyr Lys Val Val Val Gln Lys Lys Ser Gly 200 205 210	679
GGA AGG ACA GAG CAC CCT TTC ACC GTG GAG GAA TTT GTT CTT CCC AAG Gly Arg Thr Glu His Pro Phe Thr Val Glu Glu Phe Val Leu Pro Lys 215 220 225	727
TTT GAA GTA CAA GTA ACA GTG CCA AAG ATA ATC ACC ATC TTG GAA GAA Phe Glu Val Gln Val Thr Val Pro Lys Ile Ile Thr Ile Leu Glu Glu 230 235 240	775
GAG ATG AAT GTA TCA GTG TGT GGC CTA TAC ACA TAT GGG AAG CCT GTC Glu Met Asn Val Ser Val Cys Gly Leu Tyr Thr Tyr Gly Lys Pro Val 245 250 255 260	823
CCT GGA CAT GTG ACT GTG AGC ATT TGC AGA AAG TAT AGT GAC GCT TCC Pro Gly His Val Thr Val Ser Ile Cys Arg Lys Tyr Ser Asp Ala Ser 265 270 275	871
GAC TGC CAC GGT GAA GAT TCA CAG GCT TTC TGT GAG AAA TTC AGT GGA Asp Cys His Gly Glu Asp Ser Gln Ala Phe Cys Glu Lys Phe Ser Gly 280 285 290	919
CAG CTA AAC AGC CAT GGC TGC TTC TAT CAG CAA GTA AAA ACC AAG GTC Gln Leu Asn Ser His Gly Cys Phe Tyr Gln Gln Val Lys Thr Lys Val 295 300 305	967
TTC CAG CTG AAG AGG AAG GAG TAT GAA ATG AAA CTT CAC ACT GAG GCC Phe Gln Leu Lys Arg Lys Glu Tyr Glu Met Lys Leu His Thr Glu Ala 310 315 320	1015
CAG ATC CAA GAA GAA GGA ACA GTG GTG GAA TTG ACT GGA AGG CAG TCC Gln Ile Gln Glu Glu Gly Thr Val Val Glu Leu Thr Gly Arg Gln Ser 325 330 335 340	1063

FIG.7A-2

54/65																
AGT	GAA	ATC	ACA	AGA	ACC	ATA	ACC	AAA	CTC	TCA	TTT	GTG	AAA	GTG	GAC	1111
Ser	Glu	Ile	Thr	Arg	Thr	Ile	Thr	Lys	Leu	Ser	Phe	Val	Lys	Val	Asp	
				345					350					355		
TCA	CAC	TTT	CGA	CAG	GGA	ATT	CCC	TTC	TTT	GGG	CAG	GTG	CGC	CTA	GTA	1159
Ser	His	Phe	Arg	Gln	Gly	Ile	Pro	Phe	Phe	Gly	Gln	Val	Arg	Leu	Val	
			360					365					370			
GAT	GGG	AAA	GGC	GTC	CCT	ATA	CCA	AAT	AAA	GTC	ATA	TTC	ATC	AGA	GGA	1207
Asp	Gly	Lys	Gly	Val	Pro	Ile	Pro	Asn	Lys	Val	Ile	Phe	Ile	Arg	Gly	
		375					380					385				
AAT	GAA	GCA	AAC	TAT	TAC	TCC	AAT	GCT	ACC	ACG	GAT	GAG	CAT	GGC	CTT	1255
Asn	Glu	Ala	Asn	Tyr	Tyr	Ser	Asn	Ala	Thr	Thr	Asp	Glu	His	Gly	Leu	
	390					395					400					
GTA	CAG	TTC	TCT	ATC	AAC	ACC	ACC	AAC	GTT	ATG	GGT	ACC	TCT	CTT	ACT	1303
Val	Gln	Phe	Ser	Ile	Asn	Thr	Thr	Asn	Val	Met	Gly	Thr	Ser	Leu	Thr	
405					410				415					420		
GTT	AGG	GTC	AAT	TAC	AAG	GAT	CGT	AGT	CCC	TGT	TAC	GGC	TAC	CAG	TGG	1351
Val	Arg	Val	Asn	Tyr	Lys	Asp	Arg	Ser	Pro	Cys	Tyr	Gly	Tyr	Gln	Trp	
				425				430						435		
GTG	TCA	GAA	GAA	CAC	GAA	GAG	GCA	CAT	CAC	ACT	GCT	TAT	CTT	GTG	TTC	1399
Val	Ser	Glu	Glu	His	Glu	Glu	Ala	His	His	Thr	Ala	Tyr	Leu	Val	Phe	
			440				445						450			
TCC	CCA	AGC	AAG	AGC	TTT	GTC	CAC	CTT	GAG	CCC	ATG	TCT	CAT	GAA	CTA	1447
Ser	Pro	Ser	Lys	Ser	Phe	Val	His	Leu	Glu	Pro	Met	Ser	His	Glu	Leu	
		455					460					465				
CCC	TGT	GGC	CAT	ACT	CAG	ACA	GTC	CAG	GCA	CAT	TAT	ATT	CTG	AAT	GGA	1495
Pro	Cys	Gly	His	Thr	Gln	Thr	Val	Gln	Ala	His	Tyr	Ile	Leu	Asn	Gly	
	470					475					480					
GGC	ACC	CTG	CTG	GGG	CTG	AAG	AAG	CTC	TCC	TTT	TAT	TAT	CTG	ATA	ATG	1543
Gly	Thr	Leu	Leu	Gly	Leu	Lys	Lys	Leu	Ser	Phe	Tyr	Tyr	Leu	Ile	Met	
485					490				495					500		
GCA	AAG	GGA	GGC	ATT	GTC	CGA	ACT	GGG	ACT	CAT	GGA	CTG	CTT	GTG	AAG	1591
Ala	Lys	Gly	Gly	Ile	Val	Arg	Thr	Gly	Thr	His	Gly	Leu	Leu	Val	Lys	
			505					510						515		

FIG.7A-3

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55/65																	
CAG	GAA	GAC	ATG	AAG	GGC	CAT	TTT	TCC	ATC	TCA	ATC	CCT	GTG	AAG	TCA		1639
Gln	Glu	Asp	Met	Lys	Gly	His	Phe	Ser	Ile	Ser	Ile	Pro	Val	Lys	Ser		
			520					525					530				
GAC	ATT	GCT	CCT	GTC	GCT	CGG	TTG	CTC	ATC	TAT	GCT	GTT	TTA	CCT	ACC		1687
Asp	Ile	Ala	Pro	Val	Ala	Arg	Leu	Leu	Ile	Tyr	Ala	Val	Leu	Pro	Thr		
		535					540					545					
GGG	GAC	GTG	ATT	GGG	GAT	TCT	GCA	AAA	TAT	GAT	GTT	GAA	AAT	TGT	CTG		1735
Gly	Asp	Val	Ile	Gly	Asp	Ser	Ala	Lys	Tyr	Asp	Val	Glu	Asn	Cys	Leu		
	550					555					560						
GCC	AAC	AAG	GTG	GAT	TTG	AGC	TTC	AGC	CCA	TCA	CAA	AGT	CTC	CCA	GCC		1783
Ala	Asn	Lys	Val	Asp	Leu	Ser	Phe	Ser	Pro	Ser	Gln	Ser	Leu	Pro	Ala		
565					570					575					580		
TCA	CAC	GCC	CAC	CTG	CGA	GTC	ACA	GCG	GCT	CCT	CAG	TCC	GTC	TGC	GCC		1831
Ser	His	Ala	His	Leu	Arg	Val	Thr	Ala	Ala	Pro	Gln	Ser	Val	Cys	Ala		
				585					590					595			
CTC	CGT	GCT	GTG	GAC	CAA	AGC	GTG	CTG	CTC	ATG	AAG	CCT	GAT	GCT	GAG		1879
Leu	Arg	Ala	Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Asp	Ala	Glu		
			600					605					610				
CTC	TCG	GCG	TCC	TCG	GTT	TAC	AAC	CTG	CTA	CCA	GAA	AAG	GAC	CTC	ACT		1927
Leu	Ser	Ala	Ser	Ser	Val	Tyr	Asn	Leu	Leu	Pro	Glu	Lys	Asp	Leu	Thr		
		615					620					625					
GGC	TTC	CCT	GGG	CCT	TTG	AAT	GAC	CAG	GAC	GAT	GAA	GAC	TGC	ATC	AAT		1975
Gly	Phe	Pro	Gly	Pro	Leu	Asn	Asp	Gln	Asp	Asp	Glu	Asp	Cys	Ile	Asn		
	630					635					640						
CGT	CAT	AAT	GTC	TAT	ATT	AAT	GGA	ATC	ACA	TAT	ACT	CCA	GTA	TCA	AGT		2023
Arg	His	Asn	Val	Tyr	Ile	Asn	Gly	Ile	Thr	Tyr	Thr	Pro	Val	Ser	Ser		
645					650					655					660		
ACA	AAT	GAA	AAG	GAT	ATG	TAC	AGC	TTC	CTA	GAG	GAC	ATG	GGC	TTA	AAG		2071
Thr	Asn	Glu	Lys	Asp	Met	Tyr	Ser	Phe	Leu	Glu	Asp	Met	Gly	Leu	Lys		
			665						670				675				
GCA	TTC	ACC	AAC	TCA	AAG	ATT	CGT	AAA	CCC	AAA	ATG	TGT	CCA	CAG	CTT		2119
Ala	Phe	Thr	Asn	Ser	Lys	Ile	Arg	Lys	Pro	Lys	Met	Cys	Pro	Gln	Leu		
			680					685					690				

FIG.7A-4

56/65																	
CAA	CAG	TAT	GAA	ATG	CAT	GGA	CCT	GAA	GGT	CTA	CGT	GTA	GGT	TTT	TAT		2167
Gln	Gln	Tyr	Glu	Met	His	Gly	Pro	Glu	Gly	Leu	Arg	Val	Gly	Phe	Tyr		
		695					700					705					
GAG	TCA	GAT	GTA	ATG	GGA	AGA	GGC	CAT	GCA	CGC	CTG	GTG	CAT	GTT	GAA		2215
Glu	Ser	Asp	Val	Met	Gly	Arg	Gly	His	Ala	Arg	Leu	Val	His	Val	Glu		
		710				715					720						
GAG	CCT	CAC	ACG	GAG	ACC	GTA	CGA	AAG	TAC	TTC	CCT	GAG	ACA	TGG	ATC		2263
Glu	Pro	His	Thr	Glu	Thr	Val	Arg	Lys	Tyr	Phe	Pro	Glu	Thr	Trp	Ile		
		725			730				735						740		
TGG	GAT	TTG	GTG	GTG	GTA	AAC	TCA	GCA	GGG	GTG	GCT	GAG	GTA	GGA	GTA		2311
Trp	Asp	Leu	Val	Val	Val	Asn	Ser	Ala	Gly	Val	Ala	Glu	Val	Gly	Val		
				745					750					755			
ACA	GTC	CCT	GAC	ACC	ATC	ACC	GAG	TGG	AAG	GCA	GGG	GCC	TTC	TGC	CTG		2359
Thr	Val	Pro	Asp	Thr	Ile	Thr	Glu	Trp	Lys	Ala	Gly	Ala	Phe	Cys	Leu		
			760					765					770				
TCT	GAA	GAT	GCT	GGA	CTT	GGT	ATC	TCT	TCC	ACT	GCC	TCT	CTC	CGA	GCC		2407
Ser	Glu	Asp	Ala	Gly	Leu	Gly	Ile	Ser	Ser	Thr	Ala	Ser	Leu	Arg	Ala		
		775				780							785				
TTC	CAG	CCC	TTC	TTT	GTG	GAG	CTT	ACA	ATG	CCT	TAC	TCT	GTG	ATT	CGT		2455
Phe	Gln	Pro	Phe	Phe	Val	Glu	Leu	Thr	Met	Pro	Tyr	Ser	Val	Ile	Arg		
		790				795					800						
GGA	GAG	GCC	TTC	ACA	CTC	AAG	GCC	ACG	GTC	CTA	AAC	TAC	CTT	CCC	AAA		2503
Gly	Glu	Ala	Phe	Thr	Leu	Lys	Ala	Thr	Val	Leu	Asn	Tyr	Leu	Pro	Lys		
					810					815					820		
TGC	ATC	CGG	GTC	AGT	GTG	CAG	CTG	GAA	GCC	TCT	CCC	GCC	TTC	CTT	GCT		2551
Cys	Ile	Arg	Val	Ser	Val	Gln	Leu	Glu	Ala	Ser	Pro	Ala	Phe	Leu	Ala		
				825					830					835			
GTC	CCA	GTG	GAG	AAG	GAA	CAA	GCG	CCT	CAC	TGC	ATC	TGT	GCA	AAC	GGG		2599
Val	Pro	Val	Glu	Lys	Glu	Gln	Ala	Pro	His	Cys	Ile	Cys	Ala	Asn	Gly		
			840					845					850				
CGG	CAA	ACT	GTG	TCC	TGG	GCA	GTA	ACC	CCA	AAG	TCA	TTA	GGA	AAT	GTG		2647
Arg	Gln	Thr	Val	Ser	Trp	Ala	Val	Thr	Pro	Lys	Ser	Leu	Gly	Asn	Val		
		855					860					865					

FIG.7A-5

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AAT	TTC	ACT	GTG	AGC	GCA	GAG	GCA	CTA	GAG	TCT	CAA	GAG	CTG	TGT	GGG	2695
Asn	Phe	Thr	Val	Ser	Ala	Glu	Ala	Leu	Glu	Ser	Gln	Glu	Leu	Cys	Gly	
870						875					880					
ACT	GAG	GTG	CCT	TCA	GTT	CCT	GAA	CAC	GGA	AGG	AAA	GAC	ACA	GTC	ATC	2743
Thr	Glu	Val	Pro	Ser	Val	Pro	Glu	His	Gly	Arg	Lys	Asp	Thr	Val	Ile	
885					890					895					900	
AAG	CCT	CTG	TTG	GTT	GAA	CCT	GAA	GGA	CTA	GAG	AAG	GAA	ACA	ACA	TTC	2791
Lys	Pro	Leu	Leu	Val	Glu	Pro	Glu	Gly	Leu	Glu	Lys	Glu	Thr	Thr	Phe	
				905					910						915	
AAC	TCC	CTA	CTT	TGT	CCA	TCA	GGT	GGT	GAG	GTT	TCT	GAA	GAA	TTA	TCC	2839
Asn	Ser	Leu	Leu	Cys	Pro	Ser	Gly	Gly	Glu	Val	Ser	Glu	Glu	Leu	Ser	
			920					925						930		
CTG	AAA	CTG	CCA	CCA	AAT	GTG	GTA	GAA	GAA	TCT	GCC	CGA	GCT	TCT	GTC	2887
Leu	Lys	Leu	Pro	Pro	Asn	Val	Val	Glu	Glu	Ser	Ala	Arg	Ala	Ser	Val	
		935					940					945				
TCA	GTT	TTG	GGA	GAC	ATA	TTA	GGC	TCT	GCC	ATG	CAA	AAC	ACA	CAA	AAT	2935
Ser	Val	Leu	Gly	Asp	Ile	Leu	Gly	Ser	Ala	Met	Gln	Asn	Thr	Gln	Asn	
	950					955					960					
CTT	CTC	CAG	ATG	CCC	TAT	GGC	TGT	GGA	GAG	CAG	AAT	ATG	GTC	CTC	TTT	2983
Leu	Leu	Gln	Met	Pro	Tyr	Gly	Cys	Gly	Glu	Gln	Asn	Met	Val	Leu	Phe	
965					970					975					980	
GCT	CCT	AAC	ATC	TAT	GTA	CTG	GAT	TAT	CTA	AAT	GAA	ACA	CAG	CAG	CTT	3031
Ala	Pro	Asn	Ile	Tyr	Val	Leu	Asp	Tyr	Leu	Asn	Glu	Thr	Gln	Gln	Leu	
				985					990					995		
ACT	CCA	GAG	GTC	AAG	TCC	AAG	GCC	ATT	GGC	TAT	CTC	AAC	ACT	GGT	TAC	3079
Thr	Pro	Glu	Val	Lys	Ser	Lys	Ala	Ile	Gly	Tyr	Leu	Asn	Thr	Gly	Tyr	
			1000					1005					1010			
CAG	AGA	CAG	TTG	AAC	TAC	AAA	CAC	TAT	GAT	GGC	TCC	TAC	AGC	ACC	TTT	3127
Gln	Arg	Gln	Leu	Asn	Tyr	Lys	His	Tyr	Asp	Gly	Ser	Tyr	Ser	Thr	Phe	
		1015					1020					1025				
GGG	GAG	CGA	TAT	GGC	AGG	AAC	CAG	GGC	AAC	ACC	TGG	CTC	ACA	GCC	TTT	3175
Gly	Glu	Arg	Tyr	Gly	Arg	Asn	Gln	Gly	Asn	Thr	Trp	Leu	Thr	Ala	Phe	
	1030					1035					1040					

FIG.7A-6

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GTT CTG AAG ACT TTT GCC CAA GCT CGA GCC TAC ATC TTC ATC GAT GAA Val Leu Lys Thr Phe Ala Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu 1045 1050 1055 1060	3223
GCA CAC ATT ACC CAA GCC CTC ATA TGG CTC TCC CAG AGG CAG AAG GAC Ala His Ile Thr Gln Ala Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp 1065 1070 1075	3271
AAT GGC TGT TTC AGG AGC TCT GGG TCA CTG CTC AAC AAT GCC ATA AAG Asn Gly Cys Phe Arg Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys 1080 1085 1090	3319
GGA GGA GTA GAA GAT GAA GTG ACC CTC TCC GCC TAT ATC ACC ATC GCC Gly Gly Val Glu Asp Glu Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala 1095 1100 1105	3367
CTT CTG GAG ATT CCT CTC ACA GTC ACT CAC CCT GTT GTC CGC AAT GCC Leu Leu Glu Ile Pro Leu Thr Val Thr His Pro Val Val Arg Asn Ala 1110 1115 1120	3415
CTG TTT TGC CTG GAG TCA GCC TGG AAG ACA GCA CAA GAA GGG GAC CAT Leu Phe Cys Leu Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His 1125 1130 1135 1140	3463
GGC AGC CAT GTA TAT ACC AAA GCA CTG CTG GCC TAT GCT TTT GCC CTG Gly Ser His Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu 1145 1150 1155	3511
GCA GGT AAC CAG GAC AAG AGG AAG GAA GTA CTC AAG TCA CTT AAT GAG Ala Gly Asn Gln Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu 1160 1165 1170	3559
GAA GCT GTG AAG AAA GAC AAC TCT GTC CAT TGG GAG CGC CCT CAG AAA Glu Ala Val Lys Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys 1175 1180 1185	3607
CCC AAG GCA CCA GTG GGG CAT TTT TAC GAA CCC CAG GCT CCC TCT GCT Pro Lys Ala Pro Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser Ala 1190 1195 1200	3655
GAG GTG GAG ATG ACA TCC TAT GTG CTC CTC GCT TAT CTC ACG GCC CAG Glu Val Glu Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln 1205 1210 1215 1220	3703

FIG.7A-7

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CCA	GCC	CCA	ACC	TCG	GAG	GAC	CTG	ACC	TCT	GCA	ACC	AAC	ATC	GTG	AAG	3751
Pro	Ala	Pro	Thr	Ser	Glu	Asp	Leu	Thr	Ser	Ala	Thr	Asn	Ile	Val	Lys	
				1225				1230					1235			
TGG	ATC	ACG	AAG	CAG	CAG	AAT	GCC	CAG	GGC	GGT	TTC	TCC	TCC	ACC	CAG	3799
Trp	Ile	Thr	Lys	Gln	Gln	Asn	Ala	Gln	Gly	Gly	Phe	Ser	Ser	Thr	Gln	
			1240				1245					1250				
GAC	ACA	GTG	GTG	GCT	CTC	CAT	GCT	CTG	TCC	AAA	TAT	GGA	GCC	GCC	ACA	3847
Asp	Thr	Val	Val	Ala	Leu	His	Ala	Leu	Ser	Lys	Tyr	Gly	Ala	Ala	Thr	
		1255					1260					1265				
TTT	ACC	AGG	ACT	GGG	AAG	GCT	GCA	CAG	GTG	ACT	ATC	CAG	TCT	TCA	GGG	3895
Phe	Thr	Arg	Thr	Gly	Lys	Ala	Ala	Gln	Val	Thr	Ile	Gln	Ser	Ser	Gly	
	1270					1275				1280						
ACA	TTT	TCC	AGC	AAA	TTC	CAA	GTG	GAC	AAC	AAC	AAT	CGC	CTG	TTA	CTG	3943
Thr	Phe	Ser	Ser	Lys	Phe	Gln	Val	Asp	Asn	Asn	Asn	Arg	Leu	Leu	Leu	
1285					1290				1295					1300		
CAG	CAG	GTC	TCA	TTG	CCA	GAG	CTG	CCT	GGG	GAA	TAC	AGC	ATG	AAA	GTG	3991
Gln	Gln	Val	Ser	Leu	Pro	Glu	Leu	Pro	Gly	Glu	Tyr	Ser	Met	Lys	Val	
			1305					1310					1315			
ACA	GGA	GAA	GGA	TGT	GTC	TAC	CTC	CAG	ACC	TCC	TTG	AAA	TAC	AAT	ATT	4039
Thr	Gly	Glu	Gly	Cys	Val	Tyr	Leu	Gln	Thr	Ser	Leu	Lys	Tyr	Asn	Ile	
		1320					1325					1330				
CTC	CCA	GAA	AAG	GAA	GAG	TTC	CCC	TTT	GCT	TTA	GGA	GTG	CAG	ACT	CTG	4087
Leu	Pro	Glu	Lys	Glu	Glu	Phe	Pro	Phe	Ala	Leu	Gly	Val	Gln	Thr	Leu	
		1335				1340					1345					
CCT	CAA	ACT	TGT	GAT	GAA	CCC	AAA	GCC	CAC	ACC	AGC	TTC	CAA	ATC	TCC	4135
Pro	Gln	Thr	Cys	Asp	Glu	Pro	Lys	Ala	His	Thr	Ser	Phe	Gln	Ile	Ser	
	1350					1355				1360						
CTA	AGT	GTC	AGT	TAC	ACA	GGG	AGC	CGC	TCT	GCC	TCC	AAC	ATG	GCG	ATC	4183
Leu	Ser	Val	Ser	Tyr	Thr	Gly	Ser	Arg	Ser	Ala	Ser	Asn	Met	Ala	Ile	
1365				1370				1375				1380				
GTT	GAT	GTG	AAG	ATG	GTC	TCT	GGC	TTC	ATT	CCC	CTG	AAG	CCA	ACA	GTG	4231
Val	Asp	Val	Lys	Met	Val	Ser	Gly	Phe	Ile	Pro	Leu	Lys	Pro	Thr	Val	
			1385				1390					1395				

FIG.7A-8

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AAA ATG CTT GAA AGA TCT AAC CAT GTG AGC CGG ACA GAA GTC AGC AGC	4279
Lys Met Leu Glu Arg Ser Asn His Val Ser Arg Thr Glu Val Ser Ser	
1400 1405 1410	
AAC CAT GTC TTG ATT TAC CTT GAT AAG GTG TCA AAT CAG ACA CTG AGC	4327
Asn His Val Leu Ile Tyr Leu Asp Lys Val Ser Asn Gln Thr Leu Ser	
1415 1420 1425	
TTG TTC TTC ACG GTT CTG CAA GAT GTC CCA GTA AGA GAT CTC AAA CCA	4375
Leu Phe Phe Thr Val Leu Gln Asp Val Pro Val Arg Asp Leu Lys Pro	
1430 1435 1440	
GCC ATA GTG AAA GTC TAT GAT TAC TAC GAG ACG GAT GAG TTT GCA ATC	4423
Ala Ile Val Lys Val Tyr Asp Tyr Tyr Glu Thr Asp Glu Phe Ala Ile	
1445 1450 1455 1460	
GCT GAG TAC AAT GCT CCT TGC AGC AAA GAT CTT GGA AAT GCT TGAAGACCA	4474
Ala Glu Tyr Asn Ala Pro Cys Ser Lys Asp Leu Gly Asn Ala	
1465 1470 1	
CAAGGCTGAA AAGTGCTTTG CTGGAGTCCT GTTCTCTGAG CTCCACAGAA GACACGTGTT	4534
TTTGTATCTT TAAAGACTTG ATGAATAAAC ACTTTTCTG GTC	4577

FIG.7A-9

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Ser	Val	Ser	Gly	Lys	Pro	Gln	Tyr	Met	Val	Leu	Val	Pro	Ser	Leu	Leu
1				5					10					15	
His	Thr	Glu	Thr	Thr	Glu	Lys	Gly	Cys	Val	Leu	Leu	Ser	Tyr	Leu	Asn
			20					25					30		
Glu	Thr	Val	Thr	Val	Ser	Ala	Ser	Leu	Glu	Ser	Val	Arg	Gly	Asn	Arg
		35					40					45			
Ser	Leu	Phe	Thr	Asp	Leu	Glu	Ala	Glu	Asn	Asp	Val	Leu	His	Cys	Val
	50					55					60				
Ala	Phe	Ala	Val	Pro	Lys	Ser	Ser	Ser	Asn	Glu	Glu	Val	Met	Phe	Leu
65					70					75					80
Thr	Val	Gln	Val	Lys	Gly	Pro	Thr	Gln	Glu	Phe	Lys	Lys	Arg	Thr	Thr
				85					90					95	
Val	Met	Val	Lys	Asn	Glu	Asp	Ser	Leu	Val	Phe	Val	Gln	Thr	Asp	Lys
			100					105					110		
Ser	Ile	Tyr	Lys	Pro	Gly	Gln	Thr	Val	Lys	Phe	Arg	Val	Val	Ser	Met
	115						120					125			
Asp	Glu	Asn	Phe	His	Pro	Leu	Asn	Glu	Leu	Ile	Pro	Leu	Val	Tyr	Ile
	130					135					140				
Gln	Asp	Pro	Lys	Gly	Asn	Arg	Ile	Ala	Gln	Trp	Gln	Ser	Phe	Gln	Leu
145					150					155					160
Glu	Gly	Gly	Leu	Lys	Gln	Phe	Ser	Phe	Pro	Leu	Ser	Ser	Glu	Pro	Phe
				165					170					175	
Gln	Gly	Ser	Tyr	Lys	Val	Val	Val	Gln	Lys	Lys	Ser	Gly	Gly	Arg	Thr
			180					185					190		
Glu	His	Pro	Phe	Thr	Val	Glu	Glu	Phe	Val	Leu	Pro	Lys	Phe	Glu	Val
		195					200					205			
Gln	Val	Thr	Val	Pro	Lys	Ile	Ile	Thr	Ile	Leu	Glu	Glu	Glu	Met	Asn
	210					215					220				
Val	Ser	Val	Cys	Gly	Leu	Tyr	Thr	Tyr	Gly	Lys	Pro	Val	Pro	Gly	His
225					230					235					240
Val	Thr	Val	Ser	Ile	Cys	Arg	Lys	Tyr	Ser	Asp	Ala	Ser	Asp	Cys	His
				245					250					255	
Gly	Glu	Asp	Ser	Gln	Ala	Phe	Cys	Glu	Lys	Phe	Ser	Gly	Gln	Leu	Asn
			260					265					270		
Ser	His	Gly	Cys	Phe	Tyr	Gln	Gln	Val	Lys	Thr	Lys	Val	Phe	Gln	Leu
		275					280					285			
Lys	Arg	Lys	Glu	Tyr	Glu	Met	Lys	Leu	His	Thr	Glu	Ala	Gln	Ile	Gln
	290					295					300				
Glu	Glu	Gly	Thr	Val	Val	Glu	Leu	Thr	Gly	Arg	Gln	Ser	Ser	Glu	Ile
305					310					315					320

FIG.7B-1

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Thr	Arg	Thr	Ile	Thr	Lys	Leu	Ser	Phe	Val	Lys	Val	Asp	Ser	His	Phe
			325						330					335	
Arg	Gln	Gly	Ile	Pro	Phe	Phe	Gly	Gln	Val	Arg	Leu	Val	Asp	Gly	Lys
			340					345					350		
Gly	Val	Pro	Ile	Pro	Asn	Lys	Val	Ile	Phe	Ile	Arg	Gly	Asn	Glu	Ala
		355					360					365			
Asn	Tyr	Tyr	Ser	Asn	Ala	Thr	Thr	Asp	Glu	His	Gly	Leu	Val	Gln	Phe
	370					375					380				
Ser	Ile	Asn	Thr	Thr	Asn	Val	Met	Gly	Thr	Ser	Leu	Thr	Val	Arg	Val
385					390					395					400
Asn	Tyr	Lys	Asp	Arg	Ser	Pro	Cys	Tyr	Gly	Tyr	Gln	Trp	Val	Ser	Glu
			405						410					415	
Glu	His	Glu	Glu	Ala	His	His	Thr	Ala	Tyr	Leu	Val	Phe	Ser	Pro	Ser
			420					425					430		
Lys	Ser	Phe	Val	His	Leu	Glu	Pro	Met	Ser	His	Glu	Leu	Pro	Cys	Gly
		435					440					445			
His	Thr	Gln	Thr	Val	Gln	Ala	His	Tyr	Ile	Leu	Asn	Gly	Gly	Thr	Leu
	450					455					460				
Leu	Gly	Leu	Lys	Lys	Leu	Ser	Phe	Tyr	Tyr	Leu	Ile	Met	Ala	Lys	Gly
465					470					475					480
Gly	Ile	Val	Arg	Thr	Gly	Thr	His	Gly	Leu	Leu	Val	Lys	Gln	Glu	Asp
			485						490					495	
Met	Lys	Gly	His	Phe	Ser	Ile	Ser	Ile	Pro	Val	Lys	Ser	Asp	Ile	Ala
			500					505					510		
Pro	Val	Ala	Arg	Leu	Leu	Ile	Tyr	Ala	Val	Leu	Pro	Thr	Gly	Asp	Val
		515					520					525			
Ile	Gly	Asp	Ser	Ala	Lys	Tyr	Asp	Val	Glu	Asn	Cys	Leu	Ala	Asn	Lys
	530					535					540				
Val	Asp	Leu	Ser	Phe	Ser	Pro	Ser	Gln	Ser	Leu	Pro	Ala	Ser	His	Ala
545					550					555					560
His	Leu	Arg	Val	Thr	Ala	Ala	Pro	Gln	Ser	Val	Cys	Ala	Leu	Arg	Ala
			565						570					575	
Val	Asp	Gln	Ser	Val	Leu	Leu	Met	Lys	Pro	Asp	Ala	Glu	Leu	Ser	Ala
			580					585					590		
Ser	Ser	Val	Tyr	Asn	Leu	Leu	Pro	Glu	Lys	Asp	Leu	Thr	Gly	Phe	Pro
		595					600					605			
Gly	Pro	Leu	Asn	Asp	Gln	Asp	Asp	Glu	Asp	Cys	Ile	Asn	Arg	His	Asn
	610					615					620				
Val	Tyr	Ile	Asn	Gly	Ile	Thr	Tyr	Thr	Pro	Val	Ser	Ser	Thr	Asn	Glu
625					630					635					640
Lys	Asp	Met	Tyr	Ser	Phe	Leu	Glu	Asp	Met	Gly	Leu	Lys	Ala	Phe	Thr
				645					650					655	

FIG.7B-2

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Asn	Ser	Lys	Ile	Arg	Lys	Pro	Lys	Met	Cys	Pro	Gln	Leu	Gln	Gln	Tyr
			660					665					670		
Glu	Met	His	Gly	Pro	Glu	Gly	Leu	Arg	Val	Gly	Phe	Tyr	Glu	Ser	Asp
		675					680					685			
Val	Met	Gly	Arg	Gly	His	Ala	Arg	Leu	Val	His	Val	Glu	Glu	Pro	His
	690					695					700				
Thr	Glu	Thr	Val	Arg	Lys	Tyr	Phe	Pro	Glu	Thr	Trp	Ile	Trp	Asp	Leu
705					710					715					720
Val	Val	Val	Asn	Ser	Ala	Gly	Val	Ala	Glu	Val	Gly	Val	Thr	Val	Pro
			725						730						735
Asp	Thr	Ile	Thr	Glu	Trp	Lys	Ala	Gly	Ala	Phe	Cys	Leu	Ser	Glu	Asp
			740					745					750		
Ala	Gly	Leu	Gly	Ile	Ser	Ser	Thr	Ala	Ser	Leu	Arg	Ala	Phe	Gln	Pro
	755						760					765			
Phe	Phe	Val	Glu	Leu	Thr	Met	Pro	Tyr	Ser	Val	Ile	Arg	Gly	Glu	Ala
	770					775					780				
Phe	Thr	Leu	Lys	Ala	Thr	Val	Leu	Asn	Tyr	Leu	Pro	Lys	Cys	Ile	Arg
785					790					795					800
Val	Ser	Val	Gln	Leu	Glu	Ala	Ser	Pro	Ala	Phe	Leu	Ala	Val	Pro	Val
			805						810					815	
Glu	Lys	Glu	Gln	Ala	Pro	His	Cys	Ile	Cys	Ala	Asn	Gly	Arg	Gln	Thr
			820					825					830		
Val	Ser	Trp	Ala	Val	Thr	Pro	Lys	Ser	Leu	Gly	Asn	Val	Asn	Phe	Thr
		835					840					845			
Val	Ser	Ala	Glu	Ala	Leu	Glu	Ser	Gln	Glu	Leu	Cys	Gly	Thr	Glu	Val
	850					855					860				
Pro	Ser	Val	Pro	Glu	His	Gly	Arg	Lys	Asp	Thr	Val	Ile	Lys	Pro	Leu
865					870					875					880
Leu	Val	Glu	Pro	Glu	Gly	Leu	Glu	Lys	Glu	Thr	Thr	Phe	Asn	Ser	Leu
			885						890					895	
Leu	Cys	Pro	Ser	Gly	Gly	Glu	Val	Ser	Glu	Glu	Leu	Ser	Leu	Lys	Leu
			900					905					910		
Pro	Pro	Asn	Val	Val	Glu	Glu	Ser	Ala	Arg	Ala	Ser	Val	Ser	Val	Leu
		915					920					925			
Gly	Asp	Ile	Leu	Gly	Ser	Ala	Met	Gln	Asn	Thr	Gln	Asn	Leu	Leu	Gln
	930					935					940				
Met	Pro	Tyr	Gly	Cys	Gly	Glu	Gln	Asn	Met	Val	Leu	Phe	Ala	Pro	Asn
945					950					955					960
Ile	Tyr	Val	Leu	Asp	Tyr	Leu	Asn	Glu	Thr	Gln	Gln	Leu	Thr	Pro	Glu
			965						970					975	
Val	Lys	Ser	Lys	Ala	Ile	Gly	Tyr	Leu	Asn	Thr	Gly	Tyr	Gln	Arg	Gln
			980					985					990		

FIG.7B-3

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Leu Asn Tyr Lys His Tyr Asp Gly Ser Tyr Ser Thr Phe Gly Glu Arg
 995 1000 1005
 Tyr Gly Arg Asn Gln Gly Asn Thr Trp Leu Thr Ala Phe Val Leu Lys
 1010 1015 1020
 Thr Phe Ala Gln Ala Arg Ala Tyr Ile Phe Ile Asp Glu Ala His Ile
 025 1030 1035 1040
 Thr Gln Ala Leu Ile Trp Leu Ser Gln Arg Gln Lys Asp Asn Gly Cys
 1045 1050 1055
 Phe Arg Ser Ser Gly Ser Leu Leu Asn Asn Ala Ile Lys Gly Gly Val
 1060 1065 1070
 Glu Asp Glu Val Thr Leu Ser Ala Tyr Ile Thr Ile Ala Leu Leu Glu
 1075 1080 1085
 Ile Pro Leu Thr Val Thr His Pro Val Val Arg Asn Ala Leu Phe Cys
 1090 1095 1100
 Leu Glu Ser Ala Trp Lys Thr Ala Gln Glu Gly Asp His Gly Ser His
 105 1110 1115 1120
 Val Tyr Thr Lys Ala Leu Leu Ala Tyr Ala Phe Ala Leu Ala Gly Asn
 1125 1130 1135
 Gln Asp Lys Arg Lys Glu Val Leu Lys Ser Leu Asn Glu Glu Ala Val
 1140 1145 1150
 Lys Lys Asp Asn Ser Val His Trp Glu Arg Pro Gln Lys Pro Lys Ala
 1155 1160 1165
 Pro Val Gly His Phe Tyr Glu Pro Gln Ala Pro Ser Ala Glu Val Glu
 1170 1175 1180
 Met Thr Ser Tyr Val Leu Leu Ala Tyr Leu Thr Ala Gln Pro Ala Pro
 185 1190 1195 1200
 Thr Ser Glu Asp Leu Thr Ser Ala Thr Asn Ile Val Lys Trp Ile Thr
 1205 1210 1215
 Lys Gln Gln Asn Ala Gln Gly Gly Phe Ser Ser Thr Gln Asp Thr Val
 1220 1225 1230
 Val Ala Leu His Ala Leu Ser Lys Tyr Gly Ala Ala Thr Phe Thr Arg
 1235 1240 1245
 Thr Gly Lys Ala Ala Gln Val Thr Ile Gln Ser Ser Gly Thr Phe Ser
 1250 1255 1260
 Ser Lys Phe Gln Val Asp Asn Asn Asn Arg Leu Leu Leu Gln Gln Val
 265 1270 1275 1280
 Ser Leu Pro Glu Leu Pro Gly Glu Tyr Ser Met Lys Val Thr Gly Glu
 1285 1290 1295
 Gly Cys Val Tyr Leu Gln Thr Ser Leu Lys Tyr Asn Ile Leu Pro Glu
 1300 1305 1310
 Lys Glu Glu Phe Pro Phe Ala Leu Gly Val Gln Thr Leu Pro Gln Thr
 1315 1320 1325

FIG.7B-4

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Cys	Asp	Glu	Pro	Lys	Ala	His	Thr	Ser	Phe	Gln	Ile	Ser	Leu	Ser	Val
1330							1335					1340			
Ser	Tyr	Thr	Gly	Ser	Arg	Ser	Ala	Ser	Asn	Met	Ala	Ile	Val	Asp	Val
345					1350				1355					1360	
Lys	Met	Val	Ser	Gly	Phe	Ile	Pro	Leu	Lys	Pro	Thr	Val	Lys	Met	Leu
Glu	Arg	Ser	Asn	His	Val	Ser	Arg	Thr	Glu	Val	Ser	Ser	Asn	His	Val
Leu	Ile	Tyr	Leu	Asp	Lys	Val	Ser	Asn	Gln	Thr	Leu	Ser	Leu	Phe	Phe
Thr	Val	Leu	Gln	Asp	Val	Pro	Val	Arg	Asp	Leu	Lys	Pro	Ala	Ile	Val
1410							1415					1420			
Lys	Val	Tyr	Asp	Tyr	Tyr	Glu	Thr	Asp	Glu	Phe	Ala	Ile	Ala	Glu	Tyr
425					1430				1435					1440	
Asn	Ala	Pro	Cys	Ser	Lys	Asp	Leu	Gly	Asn	Ala					
				1445					1450						

FIG.7B-5

FIG. 7B-5